Issue 223

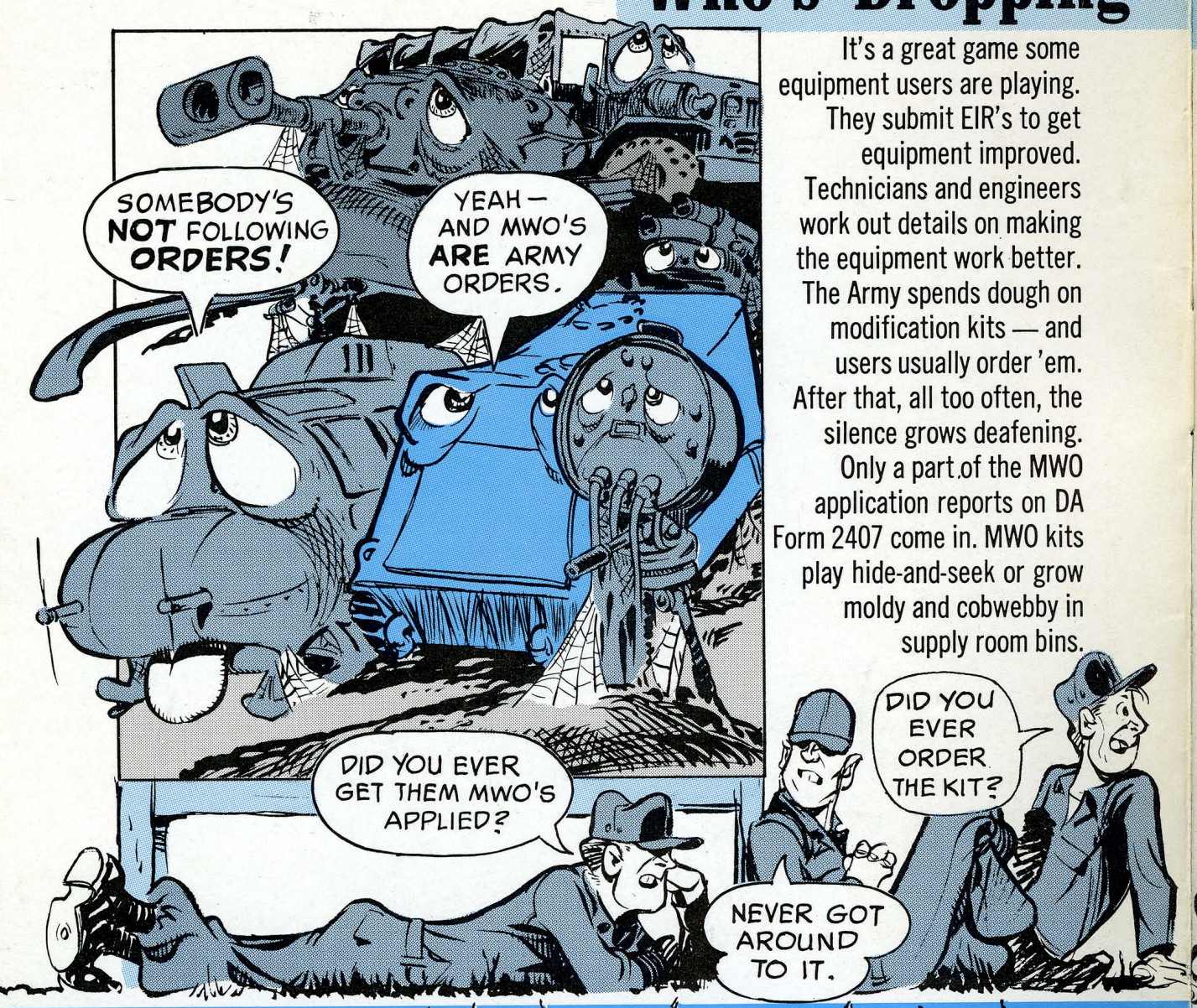
P.S

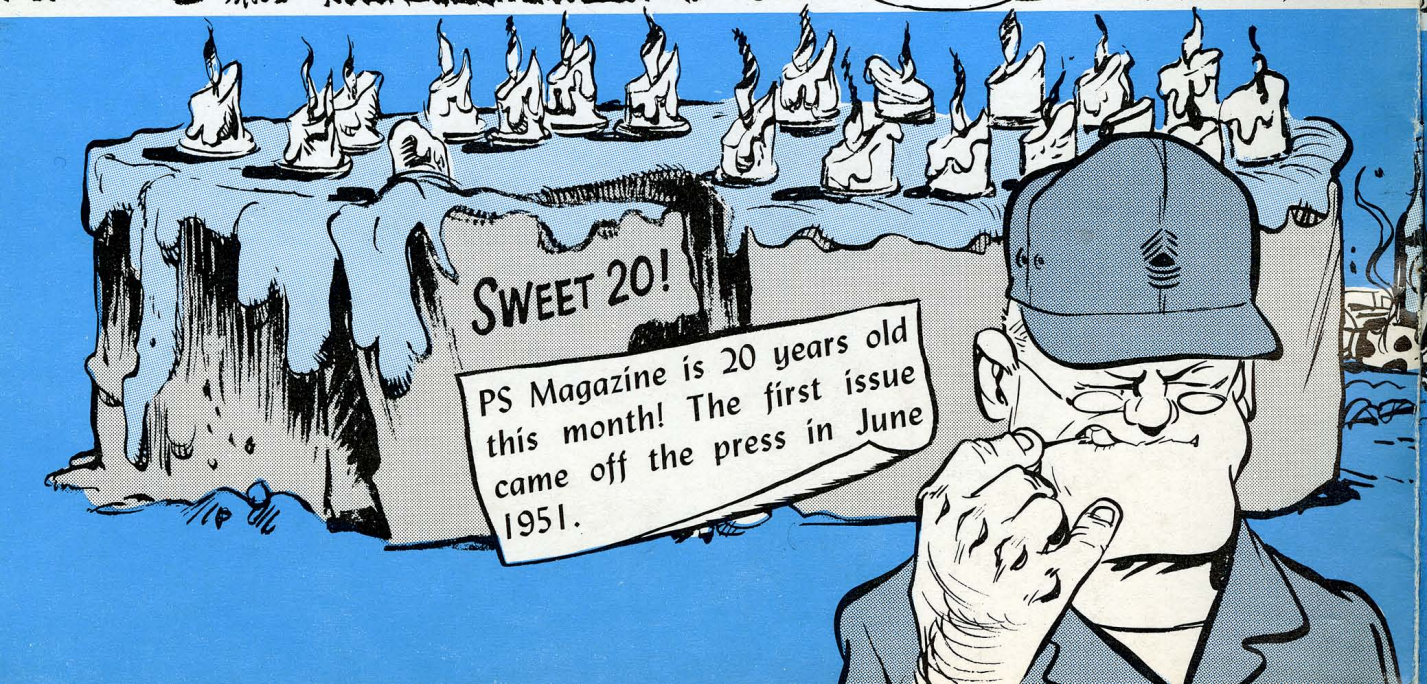
1971 Series
June

THE PREVENTIVE MAINTENANCE MONTHLY

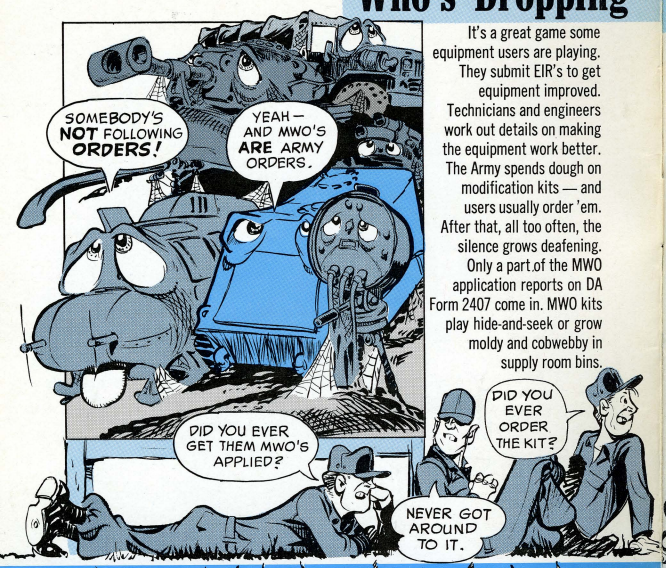
Who's Dropping

It's a great game some equipment users are playing. They submit EIR's to get equipment improved. Technicians and engineers work out details on making the equipment work better. The Army spends dough on modification kits — and users usually order 'em. After that, all too often, the silence grows deafening. Only a part of the MWO application reports on DA Form 2407 come in. MWO kits play hide-and-seek or grow moldy and cobwebby in supply room bins.





Who's Dropping the MWO Ball?



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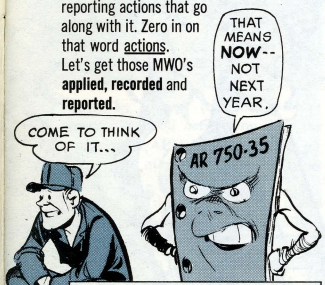
Sometimes the equipment moves out with a unit — or even goes to another unit — while support still has its MWO kit.

It's a frustrating, costly and sometimes downright dangerous game.

An MWO is an order — and so are the recording and reporting actions that go along with it. Zero in on that word actions.

Let's get those MWO's **applied, recorded** and **reported.**



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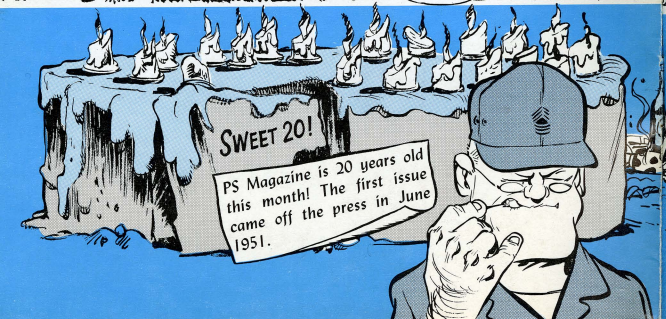

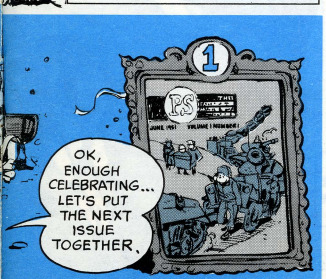

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MSG Half-Mast,
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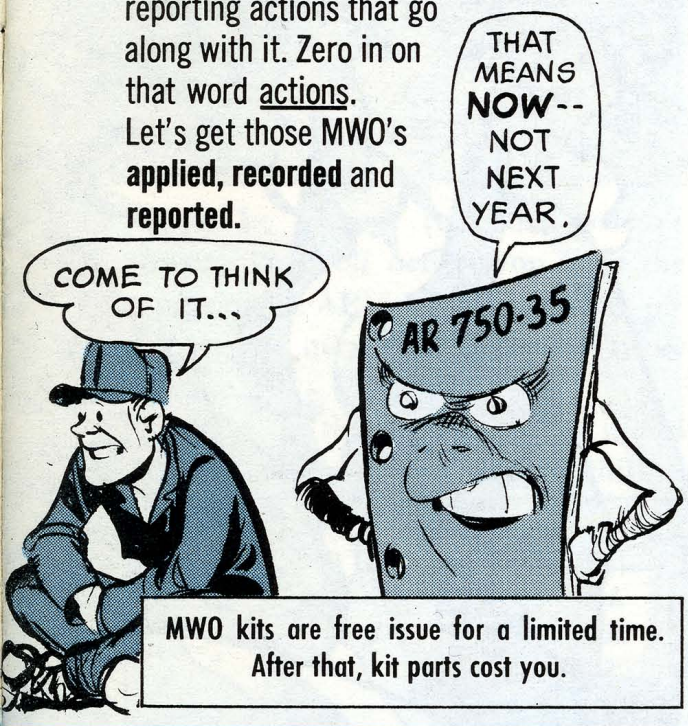

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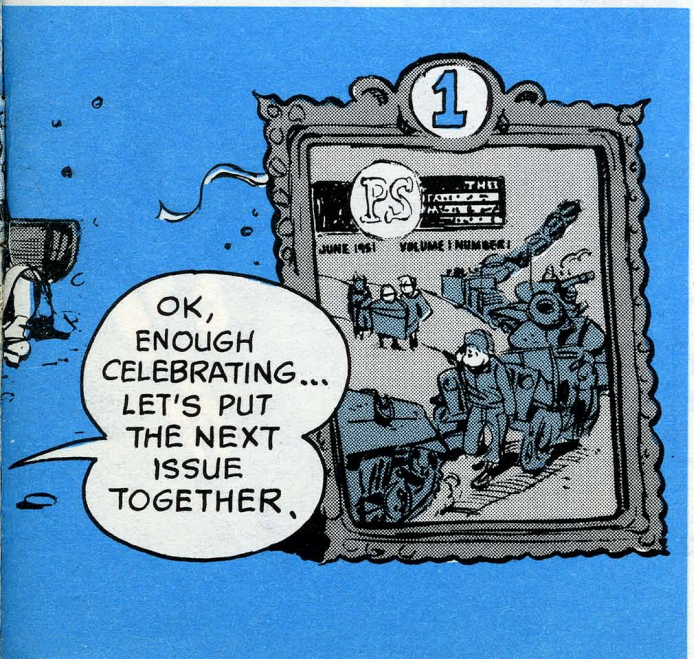

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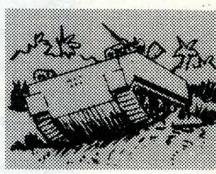

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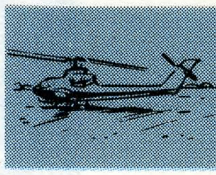

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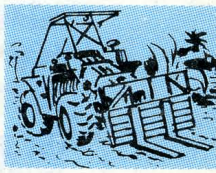

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FIREPOWER

Call it what you will: 20-MM SP, AA Arty gun, XM163, Vulcan air defense system, VADS.

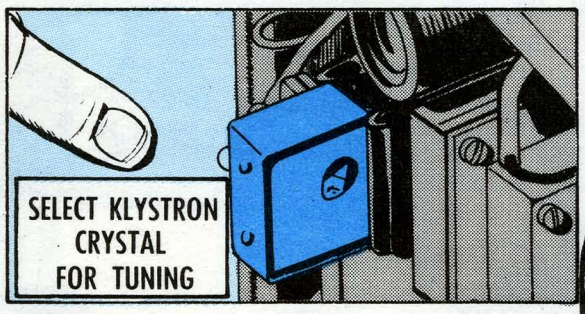
Vulcan all comes out Deadly. Dangerous. Mechanical.

Put the emphasis on the last one: mechanical. That way, the others stay constant.

So how do you emphasize the mechanical end? With maintenance. R—I—G—H—T!

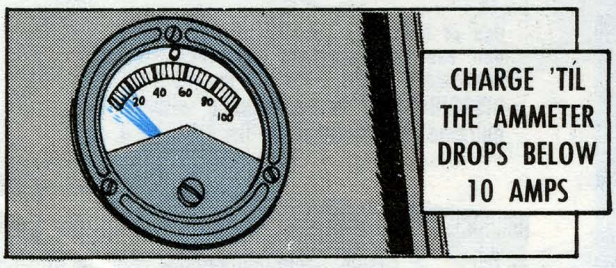
Here's some help:

Tuning the klystron in the ROR, the AN/VPS-2 radar set, is operator responsibility. The word's on page 88.1 of Ch 2, para 2-23, 3(5) TM 9-2350-300-10.



If the klystron's not adjusted properly, the ROR won't radiate . . . and who needs a radar that won't radiate?

The radar set also drains the nickel cadmium system battery . . . which means the battery could stand about a half hour's charging after each session with the ROR. At least, charge it until the ammeter drops below 10 amps.



VULCAN AA PM...
KEEP IT
DEADLY!
DO SOME NOW!

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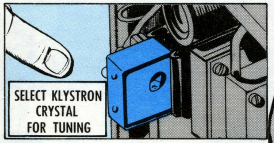

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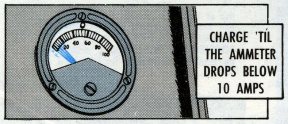

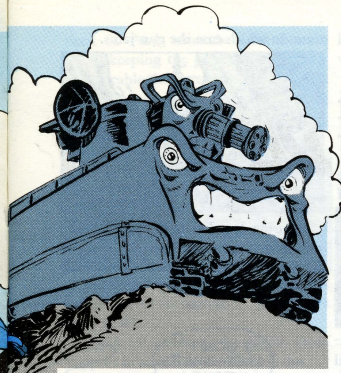

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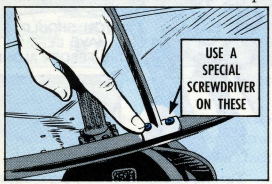
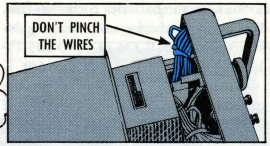
Screws on the ROR antenna guard should never be removed with a Phillips



or straight-head screwdriver. You'll botch 'em and make a headache for support.

The screws need a special, clutch-tip screwdriver, FSN 5120-674-9215, Part No. 268P-10. Screws in question are Part No. NAS 1183-1L clutch-tip base jobs (FSN 5305-236-1210).

The radar power-supply wiring requires a quick look when you're sliding the chassis back in the case.



The wiring can pop beyond the edge of the front panel . . . and you can cut or chafe it. A good indication that the wiring is damaged is that current to the blower is cut. Like, the blower doesn't work, or works irregularly . . . which sets up the power supply for heat damage.

Using the clock cable for a footrest can put it down, but good. So can snag-

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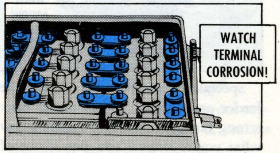
Corrosion on the nickel cadmium battery, especially at or near the terminals,



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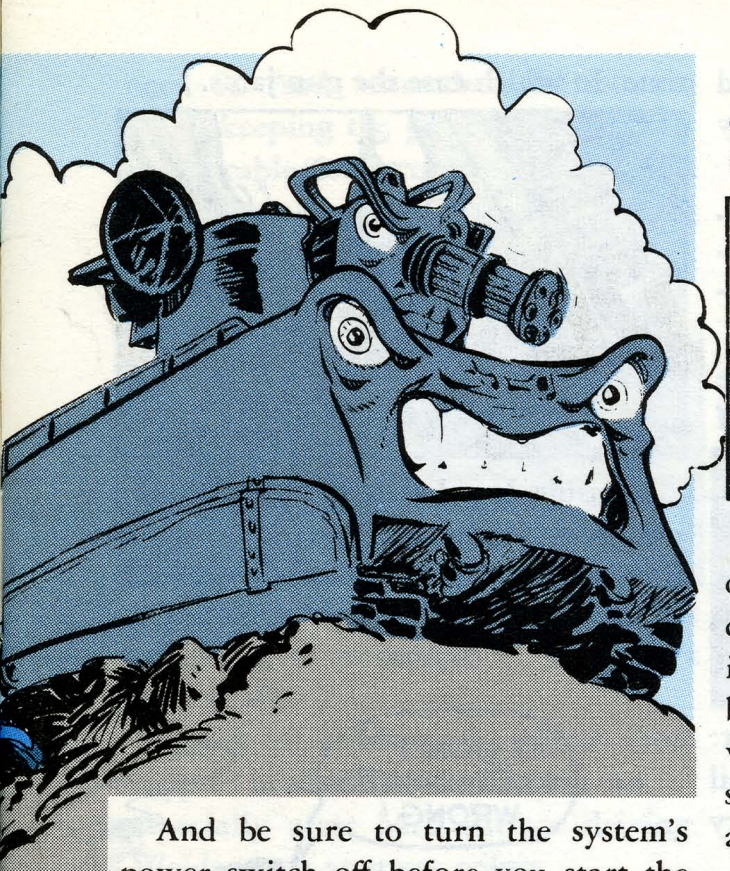

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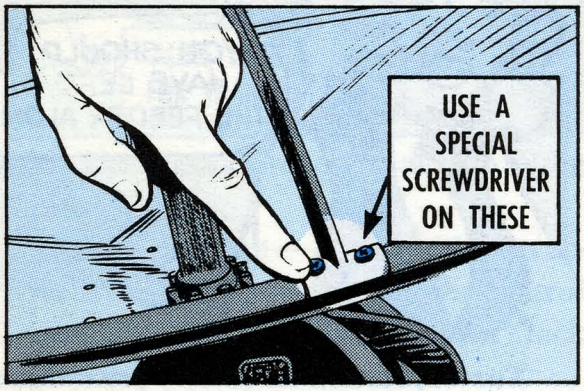

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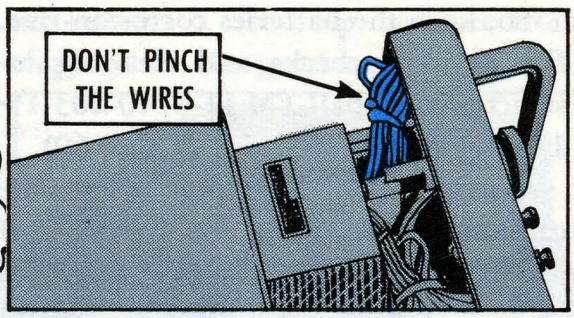

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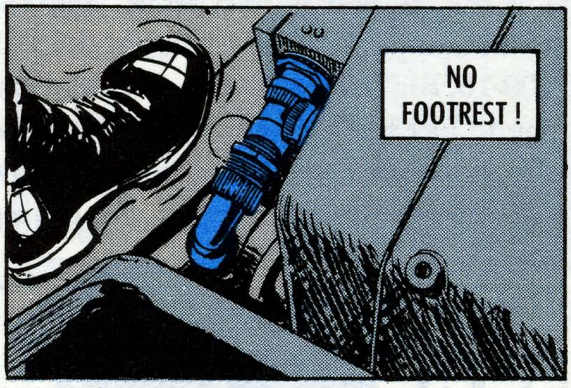

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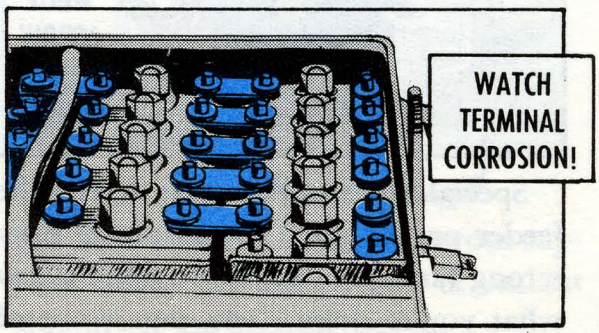


P.S MORE

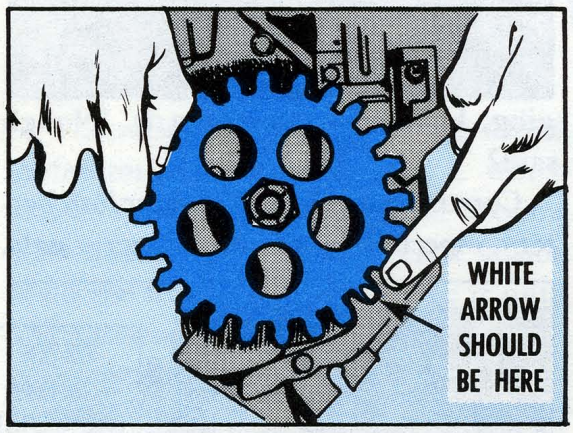
can cause the battery to fail. If it's bad enough, it could cause an explosion by blocking escape of cell gas.

So, keep the batteries corrosion-free. For periodic checks and cleaning instructions, eyeball TM 11-6140-203-15-1 and 11-6140-203-15-3 (1 Dec 69).

Condensation, forming inside the cannon covers, rusts the barrels—if

you let it. Two ways to prevent rust: give the barrels a light coat of LSA oil . . . and be sure the gun covers are dry when you put 'em on.

Timing of the conveyor when loading the cannon is important, and the word is in para 2-18 of Ch 4, TM 9-2350-300-10. Big **underline:** position the last round like the TM says. Be sure to aline the star (conveyor) gear white arrow (any arrow) in the slot of the timing lock.



Special tip to operators: Leave the feeder on the gun. If you put it back wrong (and you can, if you don't know what you're doing) you put it out of time. In which case the gun jams.

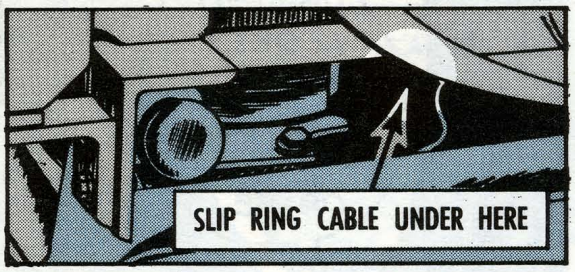
Considering that there are 5 timing points, and that only 1 has to be out of time to cause a jam, it makes good sense to keep hands off.

Turret rotation on battery juice alone puts a quick drain on your nickel cadmium power source. Except in emergencies, turn the turret only with the engine running or when you've got the APU hooked in.

If you must turn the turret with battery power, recharge the battery right now . . . so's you'll have it when you

need it. And remember the caution about keeping the power switch off.

All cable connections must be tight . . . and that goes double for the slip ring cable connector under the drum . . . which vibrates loose.

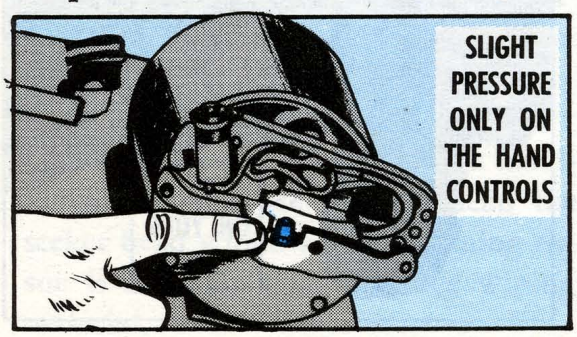


If it does come loose, you'll either get erratic turret movement . . . or it won't turn at all.

Check all welds on the ammo drum support brackets as often as you can . . . especially after hard surface driving. Welds crack at stress points.

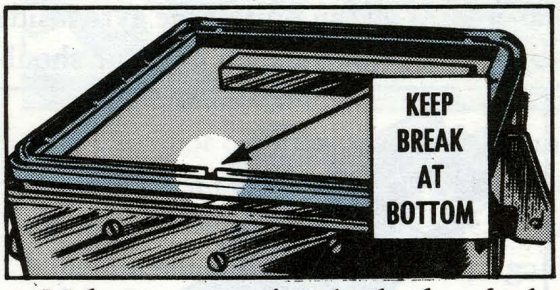
When the weapon is in transit, cage the gyro . . . by alining the white markers. The caging prevents damage to the XM61 sight.

Slight pressure—is all it takes to activate the 2 hand controls on the control assembly. Too much pressure can crack the parts or short the switches.

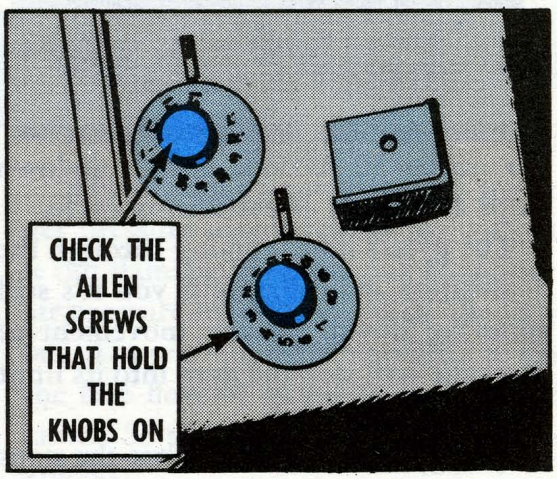


Doublecheck the position of the cover seals on the sight current generator.

The splits on each seal should be at the bottom . . . to keep moisture from seeping into the generator.



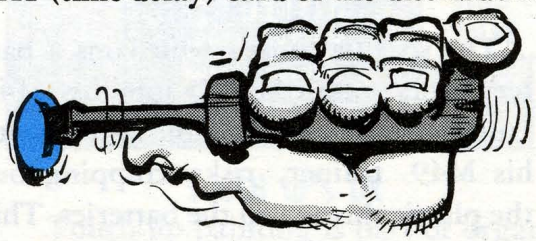
Make an occasional check of the screws on the air density and muzzle-adjust knobs of the sight current generator.



The screws work loose, the knobs slip . . . and adjustments go off.

Keep 'em snug!

If you get interrupted bursts during firing, chances are the capacitors in the A1 (time delay) card of the distribution box have vibrated loose. Have your support check 'em out. A dab of sealant should get 'em back on the job.



PS END

Like every tough guy, your Redeye buddy has a few weaknesses, but a sharp gunner can cover them with maintenance smarts.

Take that M49 trainer you use so often. You can protect the gyro inside by keeping the weapon on your shoul-

HOLD TRAINER LIKE THIS DURING SPINDOWN. PREVENTS DAMAGE TO GYRO

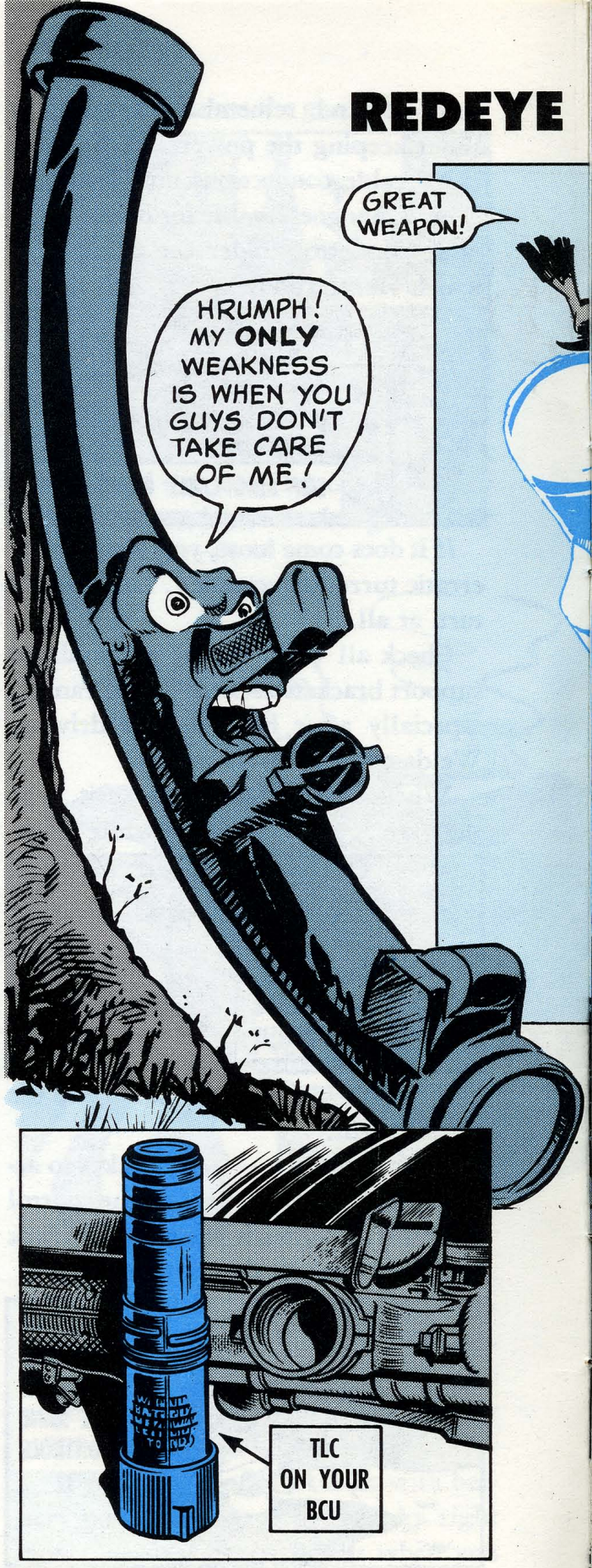
der about 30 seconds until spindown stops at the end of each firing cycle.

The gyro's hum, coming through the acquisition indicator, tells you it's still spinning down. So any movement at this time will slop the gyro into its limit stops.

This gyro can be driven into the stops at full speed, too, if you move the trainer around too fast during gyro operation. This kind of treatment can ruin the gyro.

THREAD THE BCU

The speedy gunner who jams a battery coolant unit (BCU) into his M41 launcher, or a rechargeable battery into his M49 trainer, risks chipping out the plastic threads on the batteries. This can keep the BCU or battery from seating itself properly inside the receptacle. Result: mission aborted.



REDEYE RAPS

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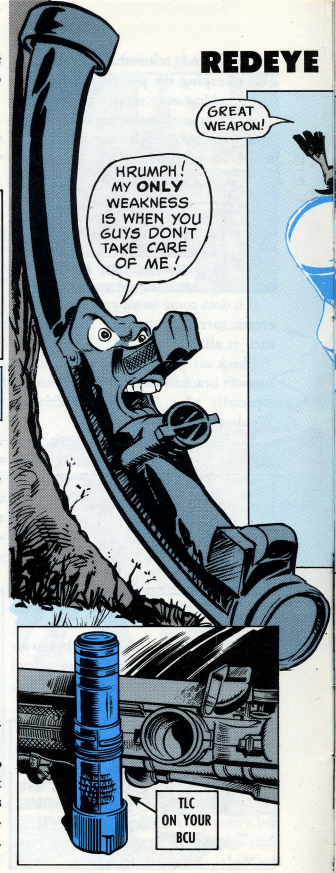
This gyro can be driven into the stops at full speed, too, if you move the trainer around too fast during gyro operation. This kind of treatment can ruin the gyro.

THREAD THE BCU

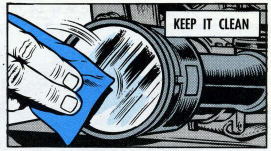
The speedy gunner who jams a battery coolant unit (BCU) into his M41 launcher, or a rechargeable battery into his M49 trainer, risks chipping out the plastic threads on the batteries. This can keep the BCU or battery from seating itself properly inside the receptacle. Result: mission aborted.



What's happening is you're marrying up plastic threads on the BCU and battery with metal threads inside the receptacle. This means the weaker plastic threads are on the losing side if you forget to line up the beginnings of both threads before you gently twist the battery clockwise and up into its receptacle.

TISSUE IT, PLEASE

The tail end of your shirt or a handkerchief is not the way to clean the seeker head window. Lens-cleaning tissue is the only good lint-free wiping material.



If you spot oil or grease spots on the window, just add a few drops of optical cleaning compound to the tissue. Then wipe the window completely dry again.

For this job you need:

Lens Paper	FSN 7920-721-8884 package (240 sheets)
Optical Lens Cleaner	FSN 6850-737-0811 2½-oz squeeze bottle

FINGER IT

Substituting a screwdriver tip for finger pressure may be easier for you, but it can damage the monopak container's air pressure relief valve. With the valve out of operation, there's nothing to stop the free flow of moisture into the container. So please use just your finger—always.

TOUCH UP'S OK

Touch-up painting is part of organizational maintenance. But limit your art work to the fiberglass launch tube and front cover whenever you see a

PS MORE

RAPS

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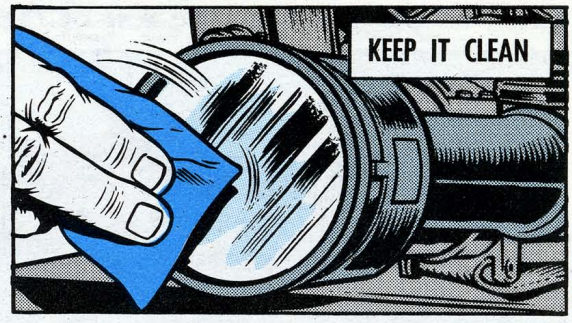

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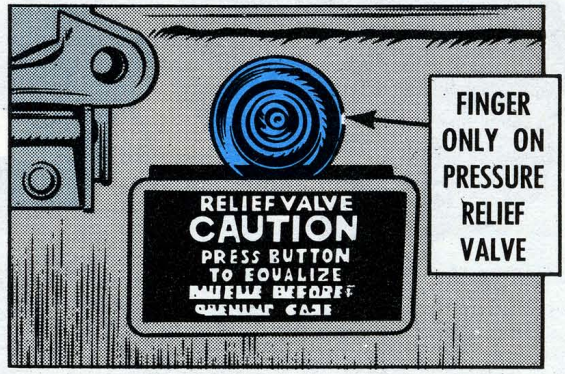

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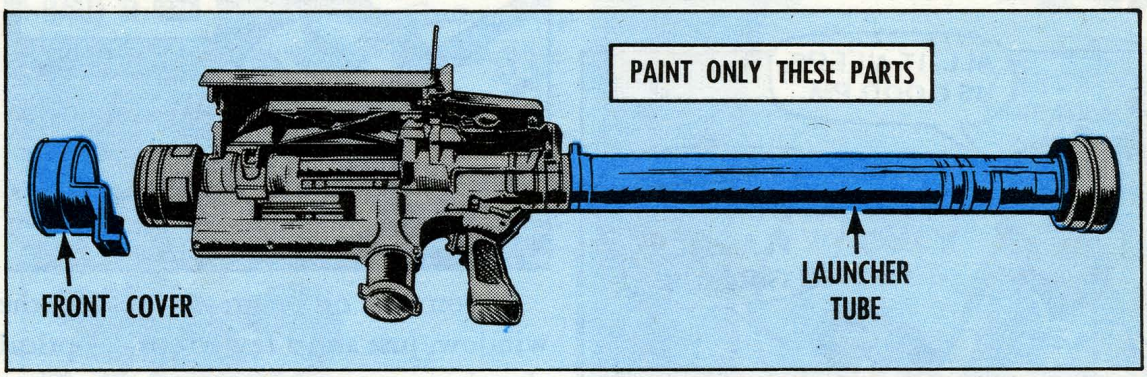
PS MORE

patch of OD missing. The rest of the weapon is off limits to paint.

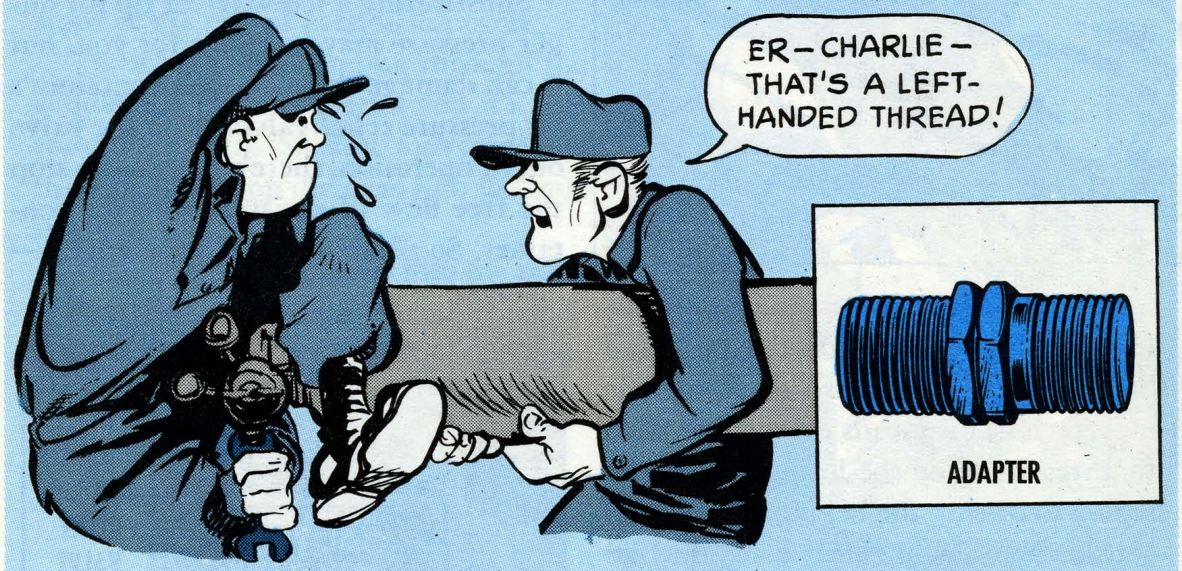


DIRTY EAR PLUGS?

You can add dirty ear plugs to the list of things that don't need hot water. Cold or luke-warm water and soap will do a fine wash job. And please remember to dry them off good before sticking them in their container.

Little things can cause a lot of trouble if you ignore them. And that's the name of the game with your Redeye GM system.

NITROGEN PURGE POOP



"If the left hand don't get you the right hand will . . ."

A line from a song?

Not exactly. We mean the left hand threaded adapter FSN 4730-951-8263 (size 9/16 x 18) and the right hand adapter FSN 4730-951-8264 (same size).

These 2 little beauties are in the Army Master Data File, and now you can get either one if you need it. You could need them if you have a nitrogen purging kit with the hose assembly and regulator threading not compatible.

They may be issued with future purging kits, but you don't need to wait.

COMMO

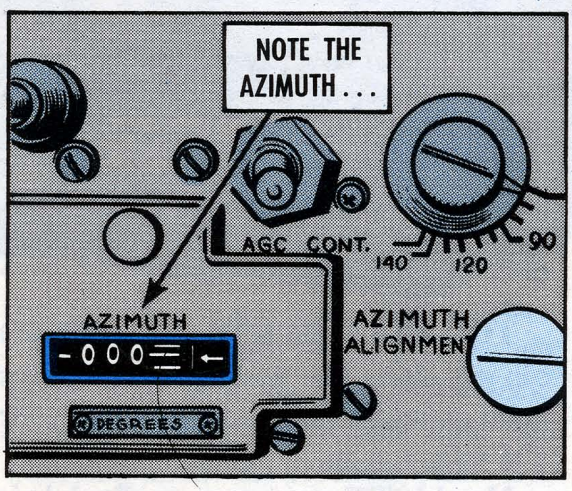
TIPSY-33 STORAGE

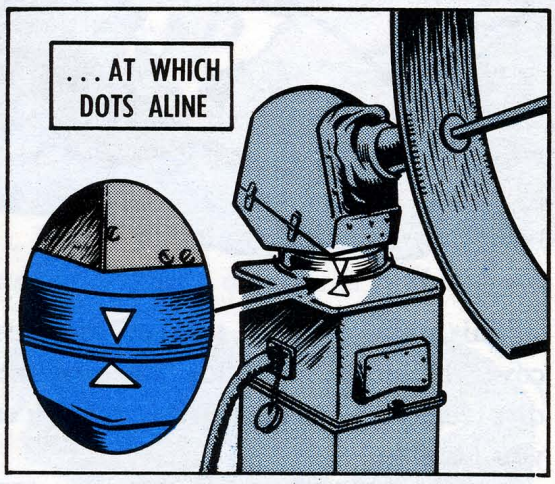
Dear Editor,

In PS 214 I saw a note to AN/TPS-33 radar operators on re-alining the antenna head before storing it.

This is good, but what about after you remote your control box?

A suggestion: to re-aline the head with the control box remoted, set your center of sector and note the azimuth at which the 2 arrows or white dots aline . . . and write it down. Do this, of course, at the start of your mission.





Then, when you return to that azimuth, your antenna head is alined . . . and you can put it in the case with no problems.

SFC John W. Ellis
APO San Francisco

(Ed Note—Now, that's what I call initiative, Sarge. And like you also pointed out, you don't have to drag the control box back to the transmitter, or yell directions to your partner. And, you can diddy mau in a hurry, if necessary.)

THAT SOLID C

If you've got an ailin' M-80C/U microphone that needs a part, the word is still "cannibalize" and turn in if cannibalization doesn't pay off.

However, if the trouble is in an achin' microphone element, you can go for a replacement element under FSN 5965-252-5800. Your authority is TB 750-911-1 (Nov 70), Item 2-6, page 8.

This means y'want to keep the dust cover in place . . . and clean the dust and dirt from your teletypewriter as often as you need to.

OIL–BUT LIGHTLY—Oil your TT —but not **too much.**

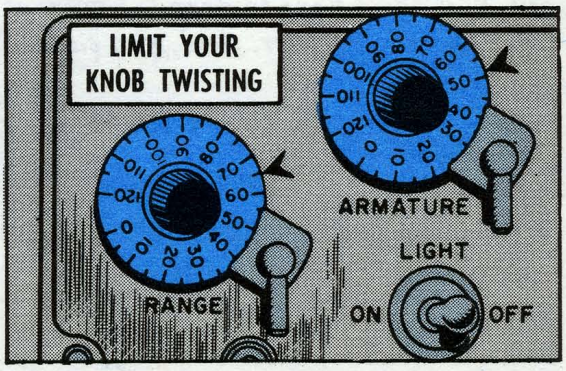
If you over-lube your TT-4( ), you'll be creating a base for crud to gather and grind away. You'll have that lube workin' against you with all that dirt in it.

Most of the downtime troubles of teletypewriters can be tracked back to too much dirt and too much oil. Either way, it's rough on TT-4's, you can betcher tuning fork.

For specific lube info, slant an eyeball at TB 11-5800-204-20/1 (Feb 66).

TOO MUCH HURTS—Your TT-4( ) can get along fine without uncalled for knob twisting. Turn only the ones your TM tells you to.

Mostly, TT operators confine their knobbing to the armature dial, range-finder, motor speed changes. If there's any other turning required, turn to your maintenance shop.



A FEW WORDS MORE ON THE TT-4

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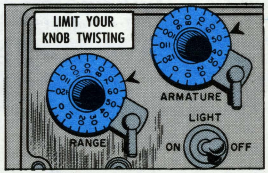
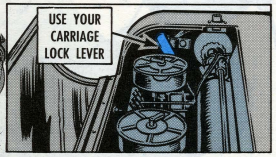


GOING SOMEWHERE?—When you're getting your TT-4( ) ready for

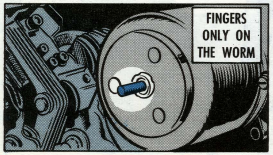


hefty travel, you need to set the platen lock, carriage lock, keyboard lock, and maybe the blocking plate.

Anything that's overlooked could be pretty well bunged up by the end of the ride, especially if you've covered any real distance on any real rough roads.

On short-distance hauls, you can get along with securing the platen lock, carriage lock, and keyboard lock, not worrying about the blocking plate. But on distance hauls, anchor that blocking plate, too.

FINGER FEEL IT—When you adjust the motor speed on a non-synchronous TT-4( ), take it easy with the governor adjustment worm.



No pliers, o'course. Make the finger handling gentle whether you're pushin' in the worm to speed up the motor, or pullin' it out to slow 'er down.

A heavy hand on the worm could result in a locked governor worm spring, and that spells "Support" for the unlocking.

For a check on motor speed, tap your tuning fork on the palm of your hand to vibrate it, then eyeball one of the dots on the governor target. If the dot is moving to the left, you want to increase motor speed. If it's moving to the right, a slowdown's in order.

If that white dot doesn't move, make no adjustment.

One thing, though: Remember to let the motor warm up for a couple of minutes before you make the tuning fork check.

You'll rate a good view through the access window of your TT-4( ) if you

keep a few pointers in mind. Like so:

No slammin' the window shut.

Use both hands to close it.

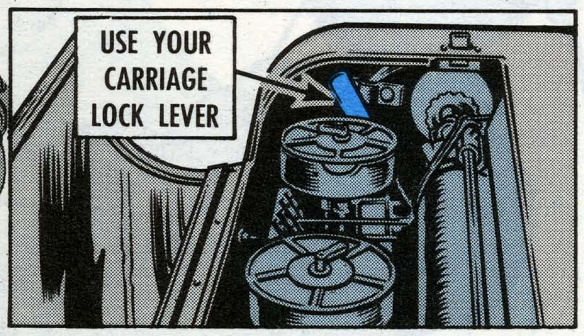
No usin' the window for an arm-rest (not sayin' you'll crack that strong plexi, but who knows?).

Plexiglass is also vulnerable to pencil gouges, scratchy rings, strong cleaning solvents, and sharp pieces of metal.

Steer clear of solvents for access-window cleaning. A damp cloth'll do the job all right, and solvents can discolor the plexi.

MORE ON THE -4

GOING SOMEWHERE?—When you're getting your TT-4( ) ready for



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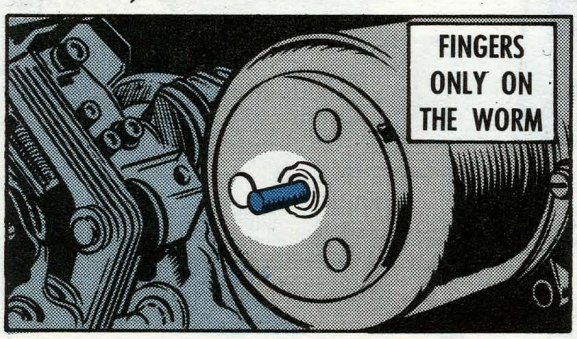

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TRACK 47

Once upon a time there was a brand spanking new AN/TRC-47 radio set. It was simple. Reliable. Steady. Everybody loved it. It gave **you** TLC.

That was once upon a time. Today that same Track-47 is still around. Beat up. Old. Hard to get parts for. Now, **it** needs TLC.

Some very basic tender, loving care should be directed at connectors and cables. Don't scrunch 'em, crunch 'em, stomp 'em, yank 'em or drop 'em.

If reception falls off, or there just ain't none, aline your antennas before you call in a repairman. . .

. . . and get familiar with the antenna position and height adjustment graphs on page 16 of TM 11-212-10. That kind of adjustment can really perk up your old box.

TRACK 47 TRICKS

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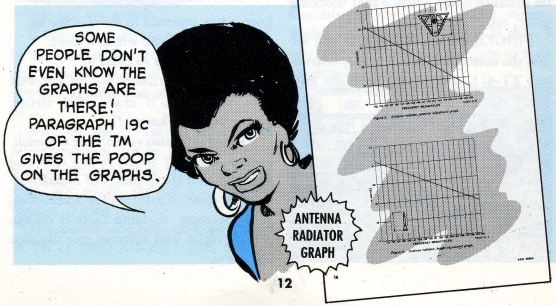
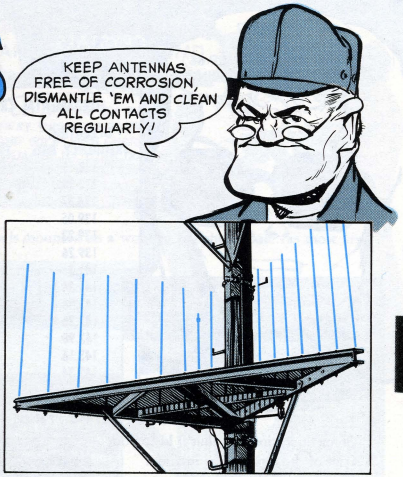
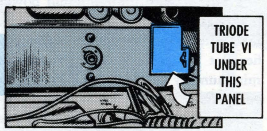


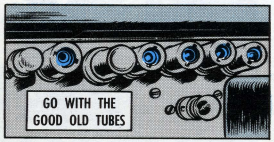


Reminders:

Your transmitter needs realinement by direct support when triode tube VI is replaced.

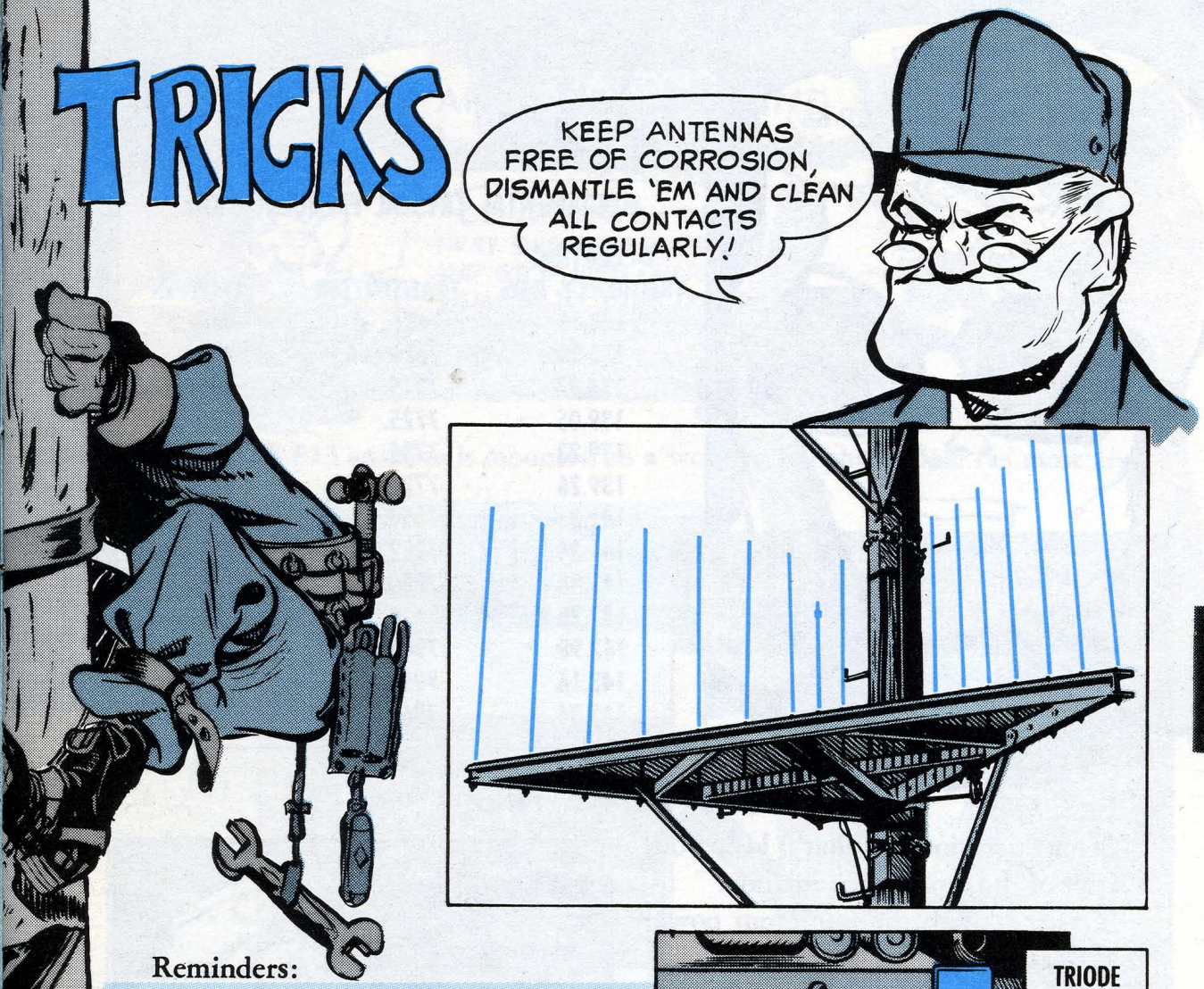
Also, if you check out tubes by the substitution method, don't leave a new tube in a socket if the original works OK. You've got a real good thing with the original, which could last for additional years, but the new one is an unknown quantity.





PS MORE

TRICKS



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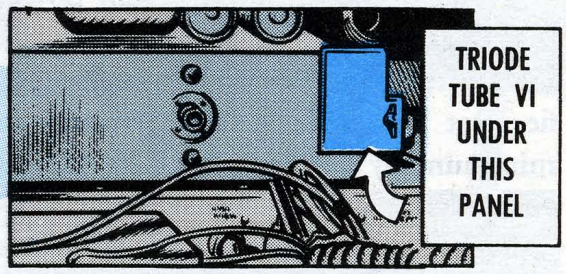

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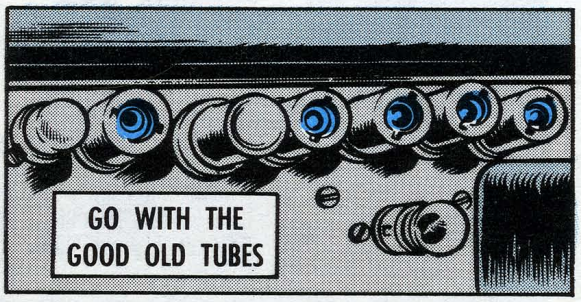


P.S MORE

CRYSTALS

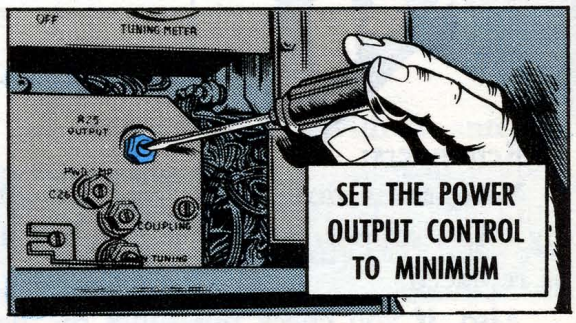
FUNDAMENTAL CRYSTAL FREQUENCY KHz

OPERATING FREQUENCY MHz	TRANSMITTER	RECEIVER
138.15	7675.	9787.5
138.18	7676.6666	9790.
138.87	7715.	9847.5
139.05	7725.	9862.5
139.23	7735.	9877.5
139.26	7736.6666	9880.
141.3	7850.	10,050.
141.34	7852.2222	10,053.333
141.48	7860.	10,065.
142.38	7910.	10,140.
142.98	7943.3333	10,190.
143.16	7953.3333	10,205.
143.34	7963.3333	10,220.

OPERATING TIPS

Some operation tips that'll keep your set out of the repair shop include:

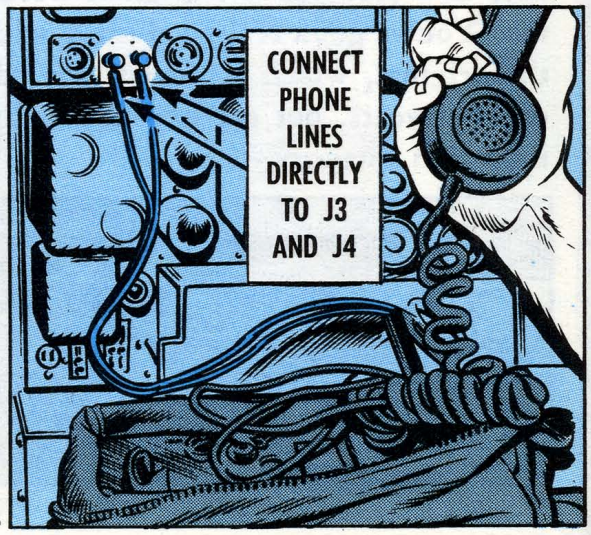
Transmit with the minimum power that'll give you good communications. Like, after you aline the power amplifier, set the power output control to minimum by turning the R25 output to the left.

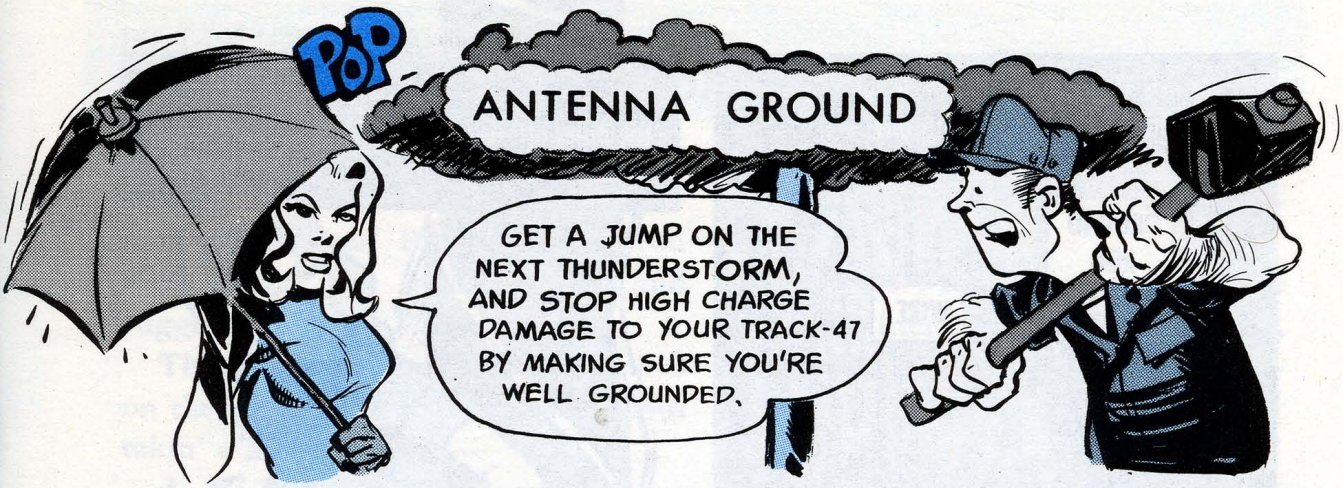


Before you go to the shop with cross-talk problems, disconnect all telephone lines and use the field phones connected directly to the converter inputs.

Then, choose a set of operating frequencies which are free from mutual interference.

If that doesn't work, call in your support.





If your AS-813 antenna is mounted on a wooden telephone pole (as most are), do this:

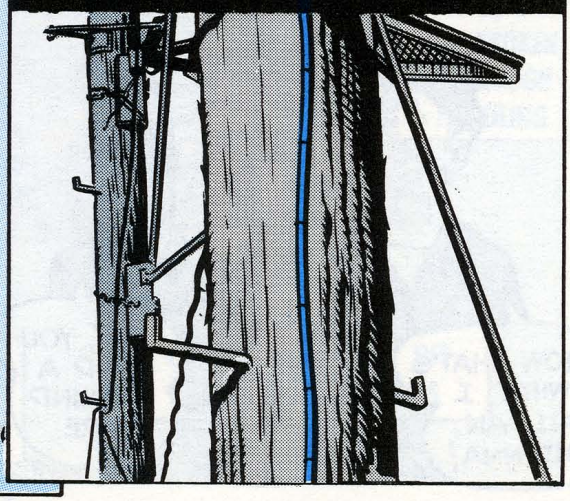
Get a 10-ft ground rod and an unspliced, unbroken length of #2 AWG wire or heavier. The #2 AWG has to be as long as the distance between the antenna and the ground.

WIRE

GROUND

Secure a metal lug to one end of the ground wire, and attach the wire and lug to any of the antenna reflector rods.

Run the wire down the pole on the side opposite the antenna cable, stapling the wire to the pole as you go.



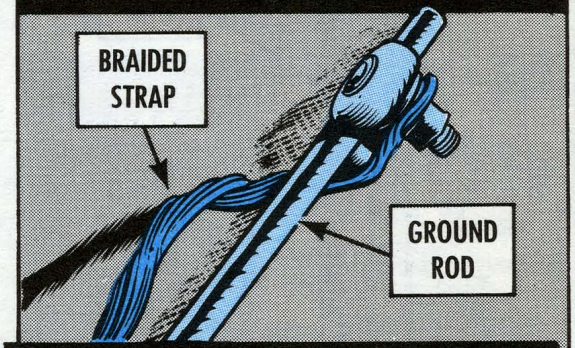
P.S MORE

Attach the wire to the ground rod, and cover the top of the rod with dirt.

If more than one antenna is mounted on the pole, attach a ground wire to each . . . but connect them all to the same ground rod.

If the mast has concrete footing, do this:
Drive down a 10-ft ground rod within 2 feet of the concrete footing.

If the antenna is mounted on a metal pole or mast, you don't need a ground wire . . . unless the pole is seated in concrete.



Clamp or bolt braided copper strap from the ground rod to the metal pole above the concrete.

Cover the ground rod with dirt.

THE T-195/GRC-19 TRANSMITTER . . .

A PANEL DISCUSSION

If you treat your T-195( )/GRC-19 transmitter with ever-lovin' kindness — meanin' personal PM — it'll get you there when the goin's rough and rugged.

There're lotsa important PM points on the transmitter panel. Howsa 'bout takin' a look at these? —

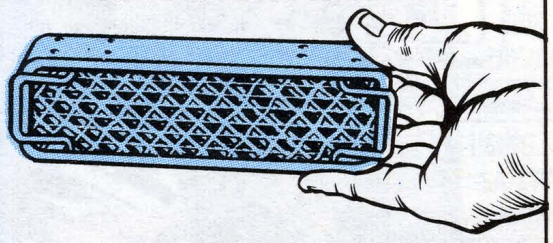
A FILTER CLOG-UP could cause overheated circuits and otherwise damage the innards of your transmitter.

Inspect the filter daily to see if it's getting clogged. If so, start your cleaning chore by tapping the filter against your palm to help loosen the crud. Then, clean the filter with a strong soap solution or a solvent, and rinse with clear water.

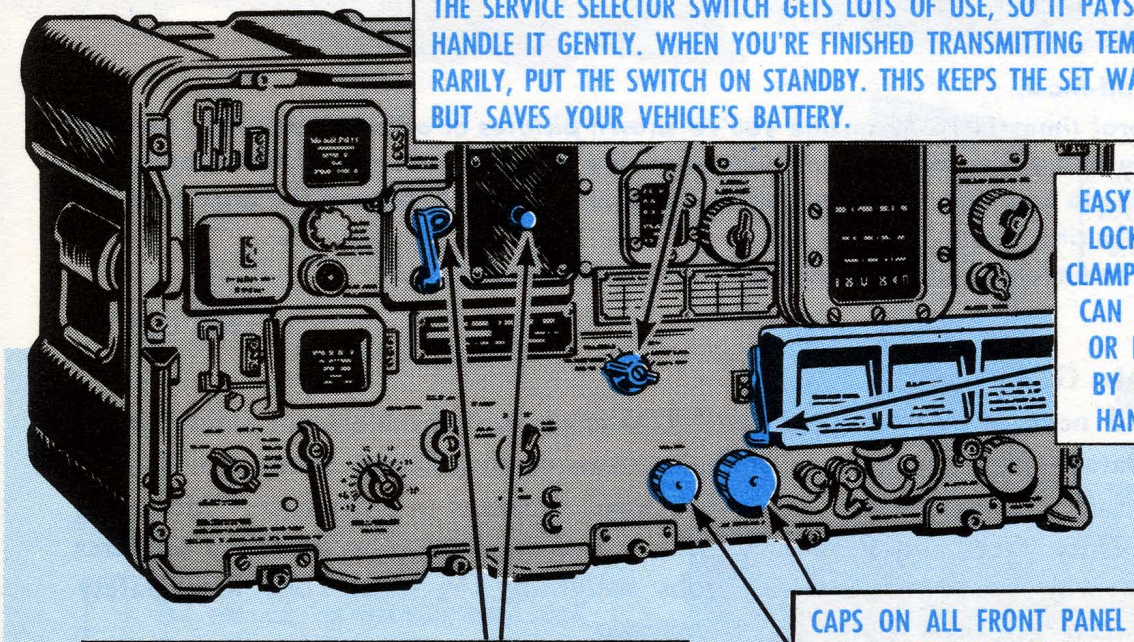
MOVING YOUR T-195? OK, turn the filter around in its receptacle to protect it.

If it stays wrong-way-around while the transmitter's givin' mit der words, you run the risk of shorted tubes, transistors, or blown circuits.

TAP FILTER AFTER CLEANING . . .



. . . AND DRY WITH LOW PRESSURE AIR ONLY . . . OR HANG IT OUT



THE SERVICE SELECTOR SWITCH GETS LOTS OF USE, SO IT PAYS TO HANDLE IT GENTLY. WHEN YOU'RE FINISHED TRANSMITTING TEMPORARILY, PUT THE SWITCH ON STANDBY. THIS KEEPS THE SET WARM BUT SAVES YOUR VEHICLE'S BATTERY.

EASY ON THE LOCK-DOWN CLAMPS — THEY CAN BE BENT OR BROKEN BY ROUGH HANDLING.

CAPS ON ALL FRONT PANEL CONNECTIONS WARD OFF BENT OR BROKEN PINS.

A BAD RF SHOCK OR BURN CAN RESULT FROM TOUCHING RF CONNECTIONS WHEN THE T-195 IS KEYED UP. KEEP COVERED.

Dear Half-Mast,

Several times in PS Magazine you've shown pictures of a "safety cage" to be used when inflating tires that have rim lock rings. We want to make one of these cages, but we'd like to be a little safer than safe — that is, we want to be sure the cage itself can take it if a ring lets go.

Do you have any specs for making a tire inflation cage?

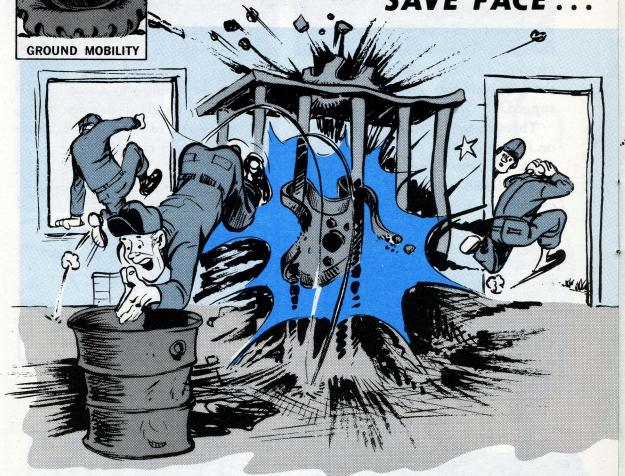
WO1 G. T. W.

Dear Mr. G. T. W.,

I had never seen any specs until I latched onto the National Safety Council's Data Sheet 411, which includes Construction Detail Sheet No. 3 for a "Tire Safety Rack." Data Sheet 411 also includes a pamphlet, "Mounting Heavy-Duty Tires and Rims," with a lot of good poop on handling big tires all the way up to tire-and-rim jobs weighing 1½ tons. Your local Safety Officer can get these poop sheets for you.

Of course, anybody working with tires should soak up the info in TM 9-2610-200-20 (Jan 71), Pneumatic Tires and Inner Tubes. The TM makes it clear that careless tire inflation can kill a guy.

TIRE SAFETY DEVICES... SAVE FACE...



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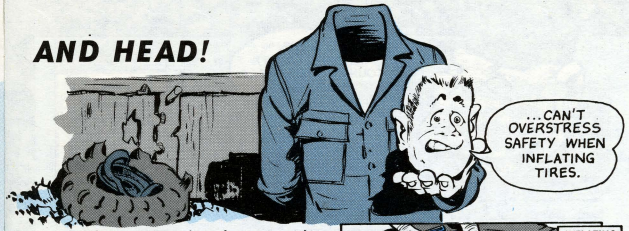
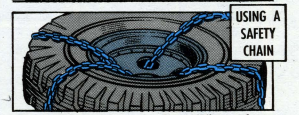
AND HEAD!

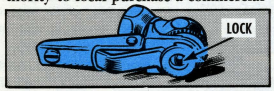


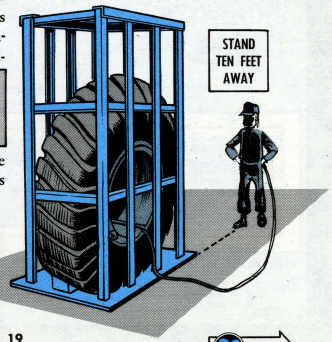
The very least in safety precautions calls for turning the ring-side away from you while inflating the tire — and away from everybody else. You reach through one of the rim holes to put the air chuck on the tire valve. Best bet here is to lay the tire ring-side-down on the ground. You can add more safety by wrapping a heavy chain around the tire and rim to stop the ring if it busts loose.



Even the tire inflation cage doesn't offer complete protection. There have been cases of guys getting hit by "shrapnel" when the ring blew off and broke into pieces against the bars of the cage.

So you may want to put more s-a-f-e-t-y into your tire inflation operation by taking a tip from Article 3-4, TB 750-981-3 (Jul 69), and put a lock chuck and 10-ft extension on your inflation hose. With your safety officer's backup, you can use AR 715-30 as authority to local-purchase a commercial-type chuck with jaws that lock onto the valve. Or you may find one that screws onto the stem.



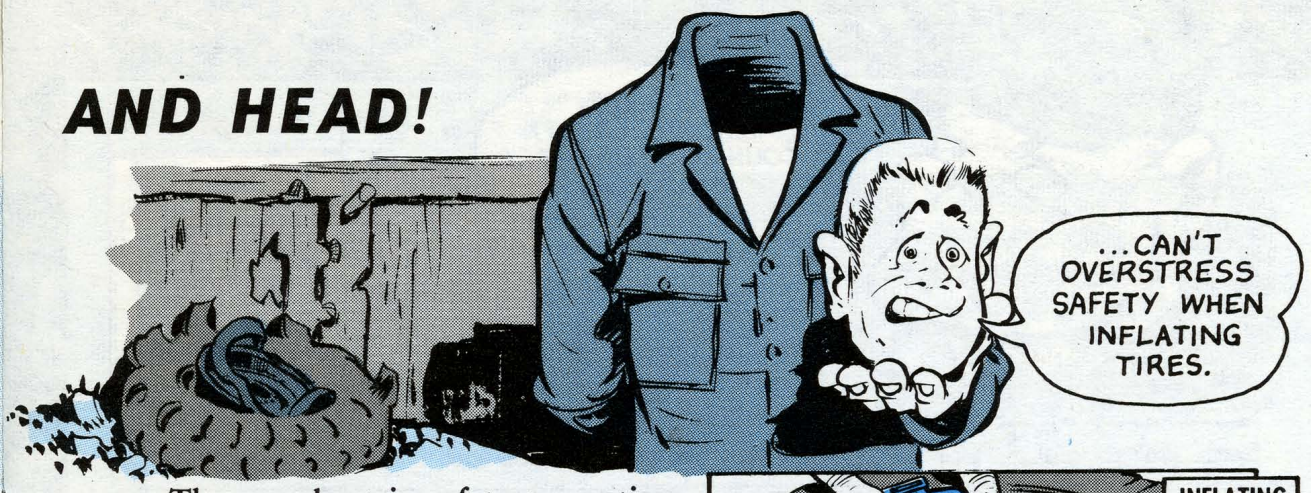


Then you'll have:

1. Tire, rim and ring assembly inside cage.
2. Ring-side away from operator.
3. Operator handling inflation valve and gage a safe 10 feet away.

PS MORE

AND HEAD!



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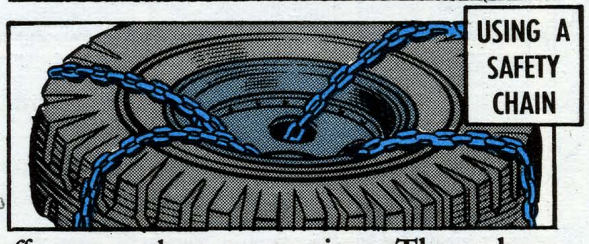

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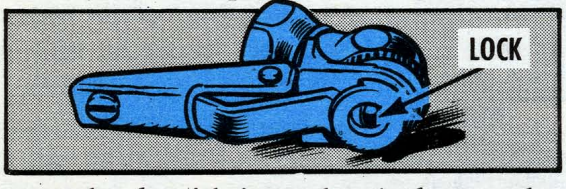

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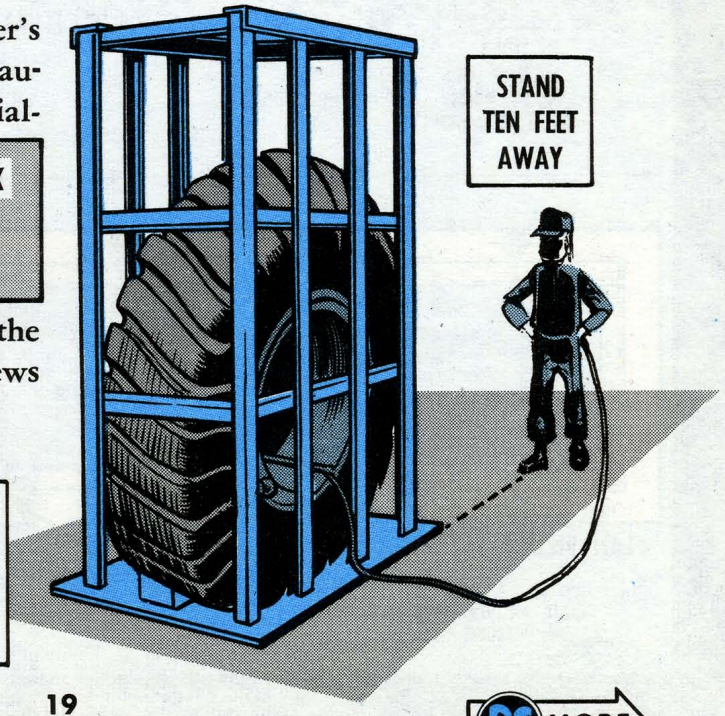
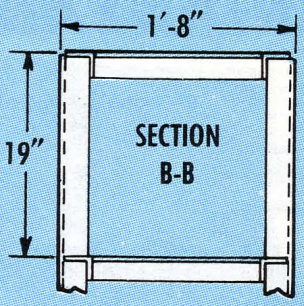
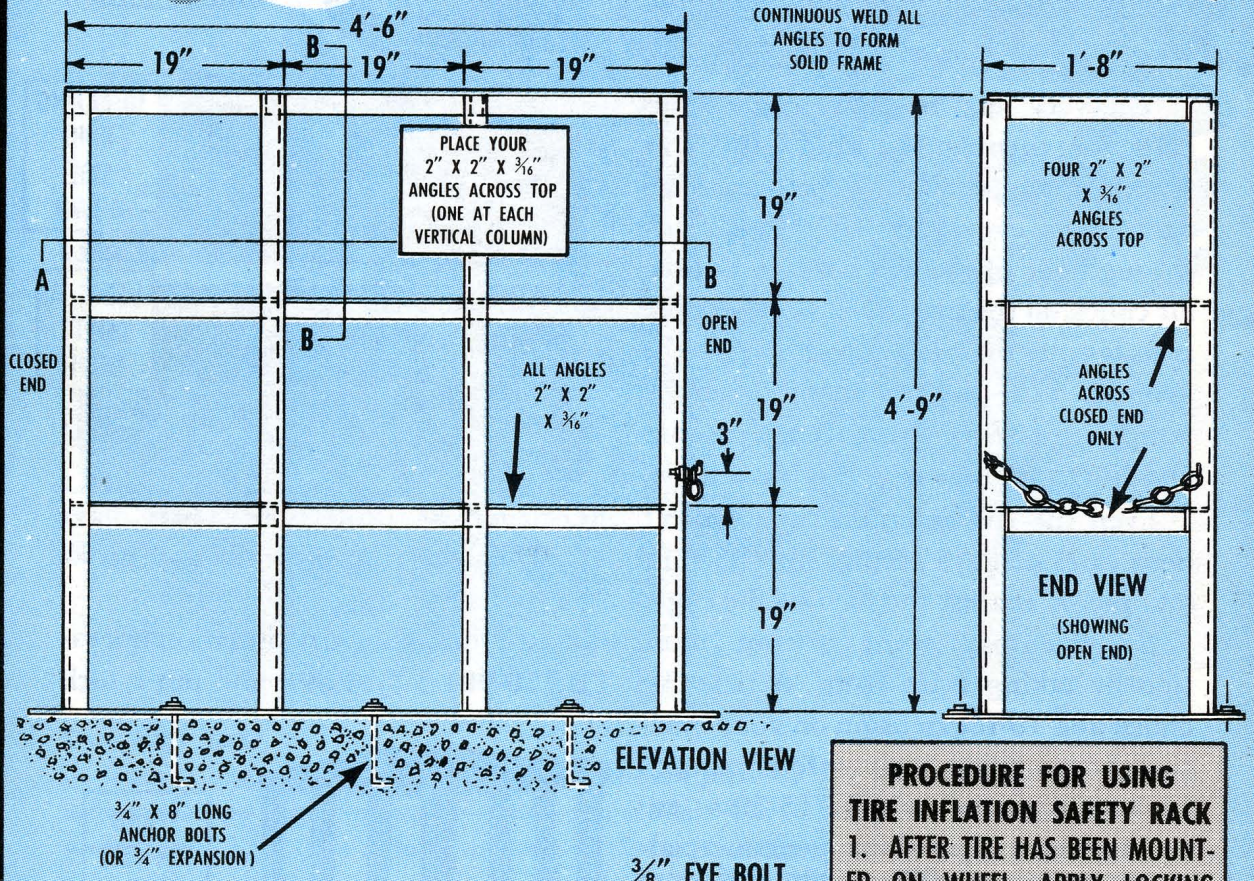
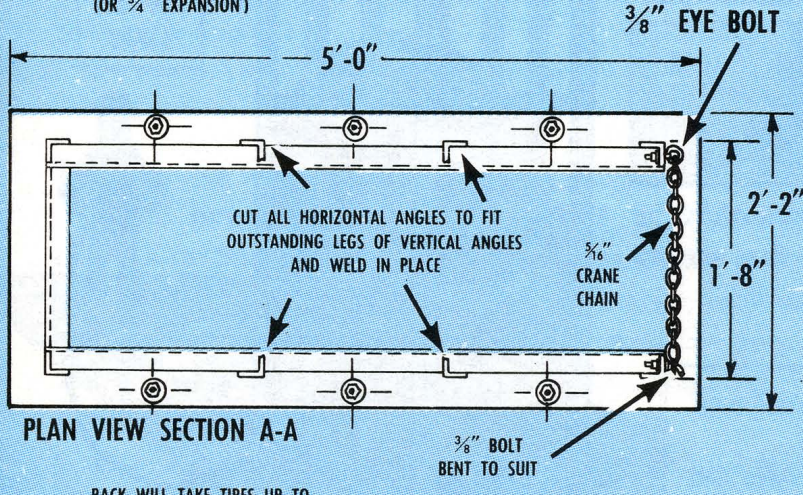


P.S MORE

HERE'S THE NATIONAL SAFETY COUNCIL SPEC SHEET FOR BUILDING A SAFETY TIRE INFLATION RACK.





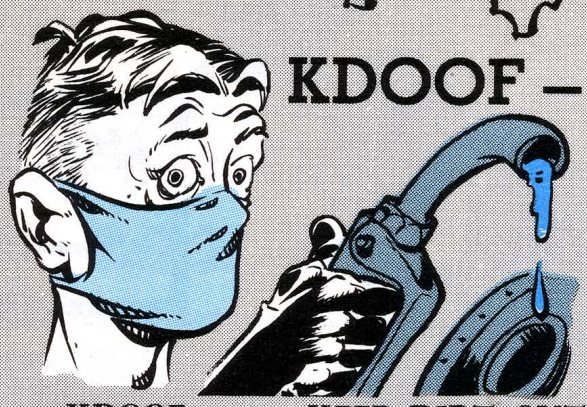


RACK WILL TAKE TIRES UP TO AND INCLUDING 14.00 X 24

PROCEDURE FOR USING TIRE INFLATION SAFETY RACK

1. AFTER TIRE HAS BEEN MOUNTED ON WHEEL, APPLY LOCKING RING AND INFLATE TO PRESSURE NOT IN EXCESS OF 15 POUNDS.
2. POUND LOCKING RING FIRMLY INTO PLACE USING RUBBER MALLET.
3. ROLL TIRE AND WHEEL INTO END OF RACK AND CENTER WHEEL IN PIPE FRAMEWORK.
4. FASTEN CHAIN AT END OF FRAME.
5. INFLATE TIRE, WORKING ON SIDE AWAY FROM LOCKING RING.
6. REMOVE TIRE AFTER INFLATING TO PROPER PRESSURE.

KDOOF – YOU BET



WARNING: Before you do any maintenance, loosen any connections, or remove any caps from any fuel containers. Be sure systems are depressurized and the engine ignition switch is in the "OFF" position.

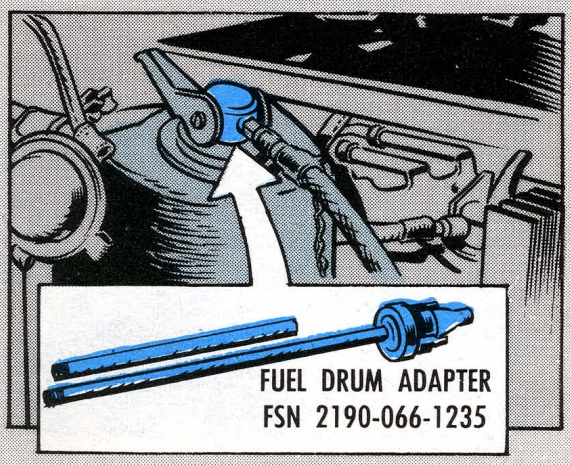
KDOOF means KEEP DIRT OUT OF FUEL. That's easier said than done in sandy, dusty places.

One way of making the job a bit easier is to use an adapter, FSN 2910-066-1235 on your cans and drums. You can then operate your engines for a longer time, and you won't need to fill the fuel tank at all because you get the fuel direct from the 55-gal fuel drum or a 5-gal fuel can.

Before you use the drum or can for your fuel source, be sure the drain valves in your generator are closed.

When you use the adapter with the drum you use both sections of the tube. You only need one section for the 5-gal can.

Make sure your drum or can is at least 15 feet from your engine. The drum or can should not be located more than 12 feet below or above the base of the engine.



FUEL DRUM ADAPTER
FSN 2190-066-1235

You remove the protective cap from the auxiliary fuel connector on your engine. Use an open-end wrench to attach one end of the fuel hose to this connector.

Be careful not to strip the threads of the connector or the coupling on the fuel hose. If you strip those threads you can get fuel leakage or loss of suction, and there's danger of fire.

Next, remove the cap from the top of the fuel drum. Insert the fuel drum adapter through the opening in the top of the fuel drum. Press down on the clamping lever to keep the fuel drum adapter in place.

Attach the free end of the fuel hose to the coupling on the auxiliary fuel drum adapter. Use an open-end wrench. Here too you want to be careful not to strip the threads.

Now operate the 3-way fuel valve located on the side of the generator set to auxiliary.

If you're not going to use those cans and drums, then fog 'em with PE-1 preservative oil and store 'em in a clean, dry place. When fuel, especially gasoline, is stored for a long time it gets contaminated and evaporates. It's also a fire hazard. You can get a 5-gal pail of PE-1 by ordering Lubricating Oil, Engine, FSN 9150-111-3199, or a 55-gal drum, FSN 9150-111-3200.

SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR...

NO. 1

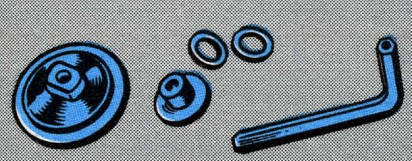
You can be a top-notch mechanic but unless you have the tools to do the job, all that know-how may be wasted. To make your maintenance job easier, get to know your tools. Keep track of those pubs that tell you what they look like, how to use 'em, and the parts that are available.

If you're in a separate unit that's responsible for semi-annual preventive maintenance services, then you're authorized the No. 1 supplemental, listed in SC 4910-95-CL-A73 (Feb 70), FSN 4910-754-0653, LIN W32867.

In case you don't find the TM listed here for your particular make and model of tools, check your DA Pamphlet 310-4, Index of TM's, etc. To keep up to date on your supply catalogs, check your DA Pam 310-6, Index of Supply Catalogs and Supply Manuals.

You get one tool unless noted. Different manufacturers make the tools, so if the one that you have doesn't look like the one pictured here, don't sweat it—it should do just as good a job.

ADAPTER, SPINDLE, PORTABLE SANDER: for 5/8-in dia spdl, 11 NC rht, w/wrench



FSN 5130-293-2330

CABLE ASSEMBLY, POWER, ELECTRICAL: No. 12 AWG, type SO, 3 cond stranded, 600 v working voltage, 50 ft lg o/a, male fitting one end, female fitting other end, w/3 wire to 2 prong adpt w/gnd wire

FSN 6150-682-3460

NO. 1 SUPPLEMENTAL TOOL SET

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FSN 6150-682-3460

CLEANER AND TESTER, SPARK PLUG: bench mtd, spark plug sizes 10-mm, 14-mm, 18-mm, and ⅞-in, 120 to 150 psi air pressure reqd, ¼-NPSH, var pressure, ac, 110 v, 60 c, sgle-ph, spark plug reflection observed in S mirror. For replacement abrasive grain use FSN 5350-222-0581

Pubs

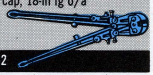
Champion 600 & 800 series, TM 9-4910-389-20P
Oiljack B800M, TM 9-4910-471-10
Szemco 1129, TM 9-4910-438-10
Voss 601, TM 9-4910-465-10

FSN 4910-261-5868

CUP, PAINT, SPRAY GUN: 1 qt cap., clamp type, w/al cover attachment

FSN 4940-190-5164 2

CUTTER, BOLT: rigid hd type, clipper cut, 5/16-in mild S rod cutting cap, 18-in lg o/a



FSN 5110-596-9162

DRILL, ELECTRIC, PORTABLE: ½-in size, hv-duty, 650 rpm, ac/dc, 115 v

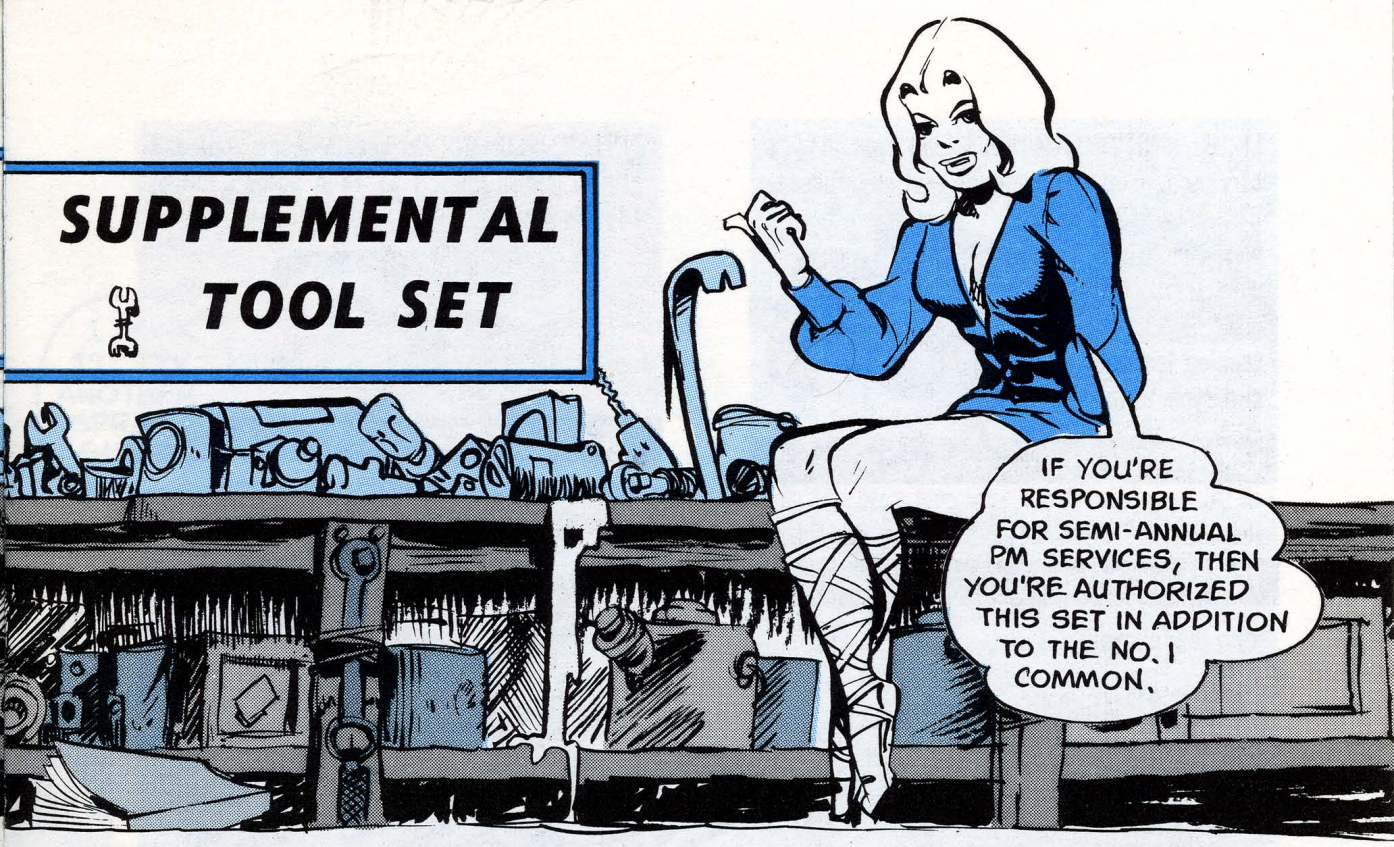
FSN 5130-889-9004

FILLER AND BLEEDER, HYDRAULIC SYSTEM: caster or skid mtd, 2 to 5 gal cap., w/air and fluid separator, 1 pressure type ga, 0 to 60 psi min scale range, 72-in min hose lg, manual control valve, w/safety valve for releasing excess air pressure, w/e TM 9-4910-481-15P

FSN 4910-273-3658

PS MORE

SUPPLEMENTAL TOOL SET



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FSN 4910-261-5868

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FSN 4940-190-5164 2

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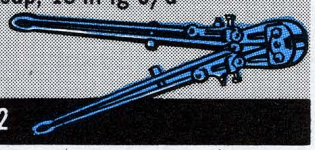
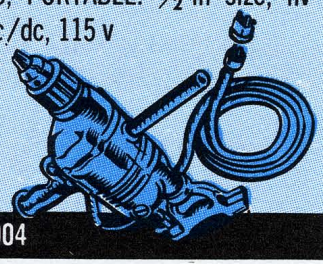


FSN 5110-596-9162

DRILL, ELECTRIC, PORTABLE: 1/2-in size, hv-duty, 650 rpm, ac/dc, 115 v



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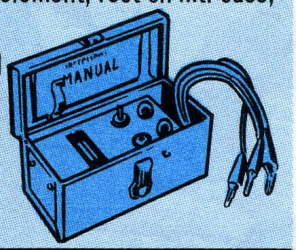
FSN 4910-273-3658

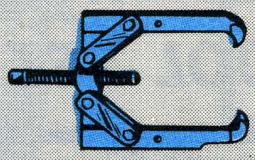
PS MORE

LIGHT, IGNITION TIMING: 3 lead type, 4½ v btry reqd, neon bulb element, rect sh-mtl case, 8½-in lg x 3½-in w x 4-in h o/a excl wire leads, 48-in lg pos, neg, and h tension leads, spg clip type term



FSN 4910-255-1449

PULLER, MECHANICAL: gear and brg, sgle-end grip, 2 exter jaws 0 to 14-in spread range, 14½-in reach

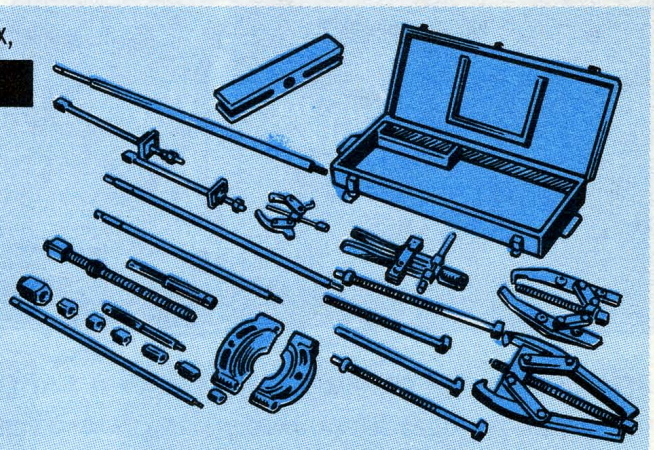


FSN 5120-378-4293

PULLER, MECHANICAL: gear and brg, in mtl bx,

FSN 5120-423-1596

c/o the following:



ADAPTER, MECHANICAL PULLER:

	qty	thd size	o/a lg in
5120-357-5180	1	⅝-18NF-2	1⅛
5120-357-5181	2	⅝-18NF-2 and ¾-16NF-2	1⅝
5120-357-5182	1	⅝-18NF-2 and ⅞-14NF-2	1⅛
5120-357-5183	1	⅝-18NF-2 and 1-14NF-2	1⅛
5120-357-5184	1	⅝-18NF-2 and 1⅛-12NF-2	1¼
5120-357-5186	1	⅝-18UNF-2B and 1½-12UNF-2B	1⅞

PULLER, MECHANICAL: sgle-end grip

	qty	spread, in.	inside w, in.
5120-030-7942	1	0 to 10	9
5120-288-7711	1	0 to 12	11

PULLER, MECHANICAL: dble-end grip

	qty	spread, in.	inside w, in.
5120-595-9304	1	0 to 6	3¼

PULLER, MECHANICAL GEAR, & BEARING PUSH-PULL: spread range, in. 3½ to 12¾, reach 9½-in.
5120-633-5085

LEGS, PUSH-PULLER: 2 legs, leg lg 16½-in.
5120-227-0635

LEG, MECHNICAL PULLER:

	qty	o/a lg, in.
5120-227-0633	2	4½
5120-227-0636	2	22½

LEG, MECHANICAL PULLER: screw w/nut and washer

	qty	o/a lg, in.
5120-227-0634	2	9½

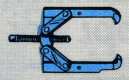
PULLER ATTACHMENT, MECHANICAL:

	qty	brg	spread in.	inside w, in.
5120-711-6753	1	exter	1 to 9	6
5120-293-1430	1	int	1½ in	4

LIGHT, IGNITION TIMING: 3 lead type, 4½ v btry reqd, neon bulb element, rect sh-mtl case, 8½-in lg x 3½-in w x 4-in h o/a excl wire leads, 48-in lg pos, neg, and h tension leads, spg clip type term

FSN 4910-255-1449

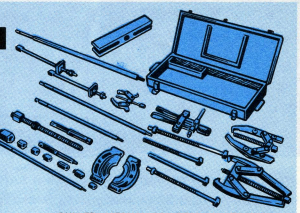
PULLER, MECHANICAL: gear and brg, sgle-end grip, 2 exter jaws 0 to 14-in spread range, 14½-in reach



FSN 5120-378-4293

PULLER, MECHANICAL: gear and brg, in mtl bx,

FSN 5120-423-1596



c/o the following:

ADAPTER, MECHANICAL PULLER:

	qty	thd size	o/a lg in
5120-357-5180	1	⅜-18NF-2	1¼
5120-357-5181	2	⅜-18NF-2 and ¾-16NF-2	1⅝
5120-357-5182	1	⅜-18NF-2 and ⅞-14NF-2	1⅛
5120-357-5183	1	⅜-18NF-2 and 1-14NF-2	1⅛
5120-357-5184	1	⅜-18NF-2 and 1¼-12NF-2	1¼
5120-357-5186	1	⅜-18UNF-2B and 1½-12UNF-2B	1⅞

PULLER, MECHANICAL: sgle-end grip

	qty	spread, in.	inside w, in.
5120-030-7942	1	0 to 10	9
5120-288-7711	1	0 to 12	11

PULLER, MECHANICAL: dble-end grip

	qty	spread, in.	inside w, in.
5120-595-9304	1	0 to 6	3¼

PULLER, MECHANICAL GEAR, & BEARING PUSH-PULL: spread range, in. 3½ to 12¾, reach 9½-in.
5120-633-5085

LEGS, PUSH-PULLER: 2 legs, leg lg 16½-in.
5120-227-0635

LEG, MECHNICAL PULLER:

	qty	o/a lg, in.
5120-227-0633	2	4½
5120-227-0636	2	22½

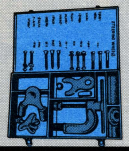
LEG, MECHANICAL PULLER: screw w/nut and washer

	qty	o/a lg, in.
5120-227-0634	2	9½

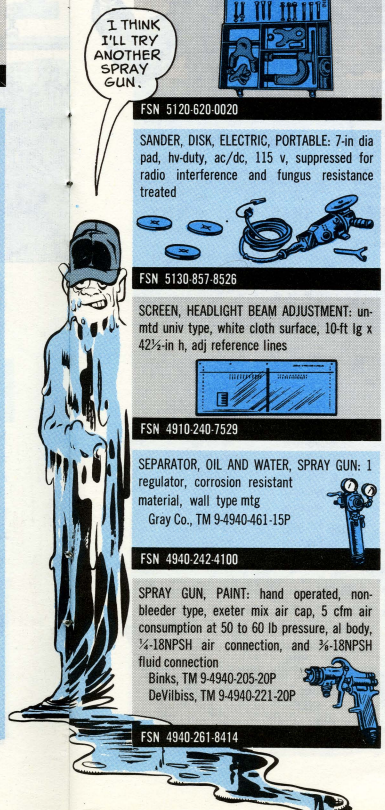
PULLER ATTACHMENT, MECHANICAL:

	qty	brg	spread in.	inside w, in.
5120-711-6753	1	exter	1 to 9	6
5120-293-1430	1	int	1½ in	4

PULLER, STEERING WHEEL: C shaped puller body, w/adpt



FSN 5120-620-0020



SANDER, DISK, ELECTRIC, PORTABLE: 7-in dia pad, hv-duty, ac/dc, 115 v, suppressed for radio interference and fungus resistance treated

FSN 5130-857-8526

SCREEN, HEADLIGHT BEAM ADJUSTMENT: unmtd univ type, white cloth surface, 10-ft lg x 42½-in h, adj reference lines

FSN 4910-240-7529

SEPARATOR, OIL AND WATER, SPRAY GUN: 1 regulator, corrosion resistant material, wall type mtg
Gray Co., TM 9-4940-461-15P

FSN 4940-242-4100

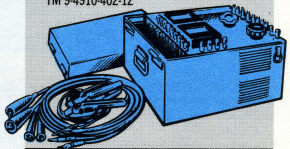
SPRAY GUN, PAINT: hand operated, non-bleeder type, exeter mix air cap, 5 cfm air consumption at 50 to 60 lb pressure, al body, ¼-18NPSH air connection, and ⅜-18NPSH fluid connection
Binks, TM 9-4940-205-20P
DeVilbiss, TM 9-4940-221-20P

FSN 4940-261-8414

STUD REMOVER AND SETTER: wedge type, ¼-in to ⅜-in stud dia range, ½-in female sq-drive

FSN 5120-596-0980

TEST SET, GENERATOR AND VOLTAGE REGULATOR, AUTOMOTIVE: measurements of voltage and cur. in the low tension circuits of 6/12/24 v test, ammeter 3 to 0 to 10 amp, 30 to 0 to 100 amp, and 150 to 0 to 500 amp ranges, voltmeter 0 to 1 v, 0 to 10 v, 0 to 20 v, and 0 to 50 v ranges, S, 15-in lg x 18-in w x 12-in h, for general purpose use, w/carrying case
Allen, TM 9-4910-456-10
Atomic Engineering, TM 9-4910-401-12, 20P
Auto Test Inc, TM 9-4910-401-12, 20P
Austin Continental Industries, Inc;
Electro Mechanisms Corp; Ram Meter, Inc, TM 9-4910-402-12



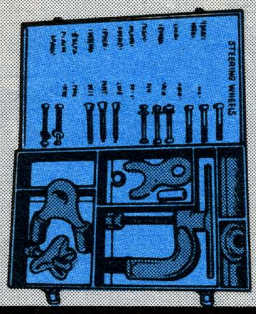
FSN 4910-092-9136

TEST SET, TACHOMETER-DWELL: ptbl type, tachometer scale 0 to 1000 rpm range of numerical markings w/20 rpm smallest increment and 0 to 5000 rpm range of numerical markings w/100 rpm smallest increment, dwell meter scale 0 to 50 deg range of numerical markings w/1 deg smallest increment, nonluminiferous, 30 to 80 deg, range of numerical markings, w/2 deg smallest increment, nonluminferous, 10¼-in lg x 8¾-in h o/a, 3 leads 108-in lg, btry, distributor, and tachometer leads, w/3 position manual selector, w/2 instruction books

FSN 4910-788-8549

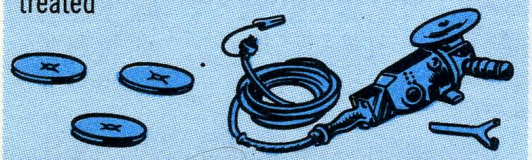
MORE

PULLER, STEERING WHEEL: C shaped puller body, w/adpt



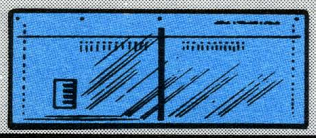
FSN 5120-620-0020

SANDER, DISK, ELECTRIC, PORTABLE: 7-in dia pad, hv-duty, ac/dc, 115 v, suppressed for radio interference and fungus resistance treated



FSN 5130-857-8526

SCREEN, HEADLIGHT BEAM ADJUSTMENT: unmtd univ type, white cloth surface, 10-ft lg x 42½-in h, adj reference lines



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Allen, TM 9-4910-456-10

Atomic Engineering, TM 9-4910-401-12, 20P

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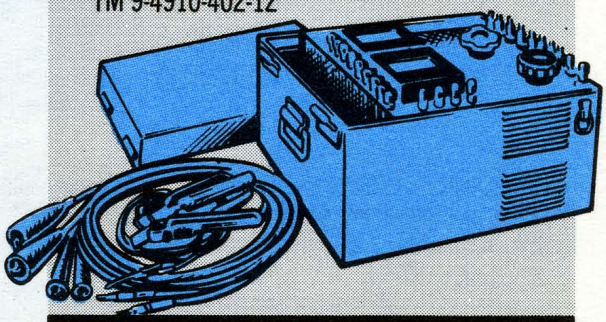

FSN 4910-092-9136

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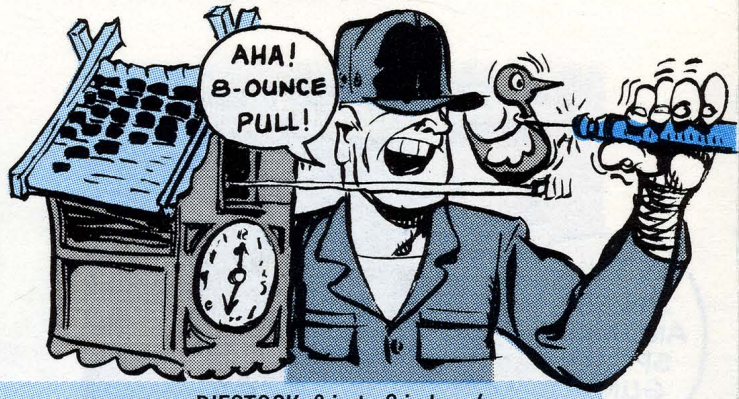
FSN 4910-788-8549

PS MORE

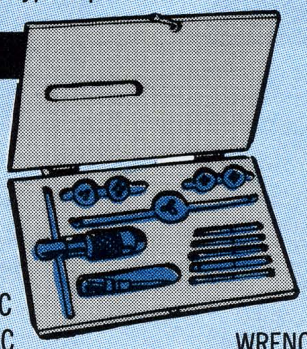
TESTER, SPRING RESILIENCY: ptbl, tests tension type spg, weighing scale type, manually operated, hook load receiver, marked in oz, 0 to 80 oz range of grad, 1 oz smallest increment

FSN 6635-449-3750



THREADING SET, SCREW: rht, rd split type tap

FSN 5180-357-7510



c/o one each of the following:

DIE, THREAD CUTTING:

	thd size
5136-239-2777	no. 6-32NC
5136-239-2778	no. 8-32NC
5136-239-2779	no. 10-24NC
5136-618-2691	no. 10-32NF
5136-239-2780	no. 12-24NC

DIESTOCK: 6-in to 8-in lg o/a
5136-221-1236

TAP, THREAD CUTTING:

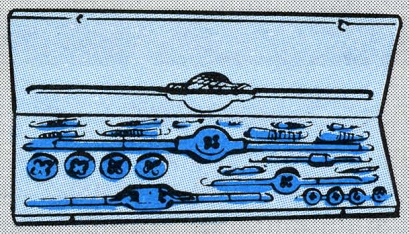
	thd size
5136-729-5695	no. 6-32NC
5136-729-5694	no. 8-32NC
5136-585-6760	no. 10-24NC
5136-228-1008	no. 10-32NF

WRENCH TAP AND REAMER, ADJUSTABLE: straight type, double handle bolt tap holding cap. no. 0 to ¼-in
5120-357-9168

THREADING SET, SCREW: rht, rd split type dies

FSN 5180-448-2362

Consisting of:



DIE, THREAD CUTTING:

	thd size
5136-224-1461	¼-20NC
5136-189-3216	5/16-18NC
5136-189-3217	3/8-16NC
5136-189-3218	7/16-14NC
5136-189-3219	½-13NC
5136-189-3220	9/16-12NC
5136-189-3221	5/8-11NC
5136-189-3222	¾-10NC
5136-189-3223	7/8-9NC
5136-189-3224	1.0-8NC

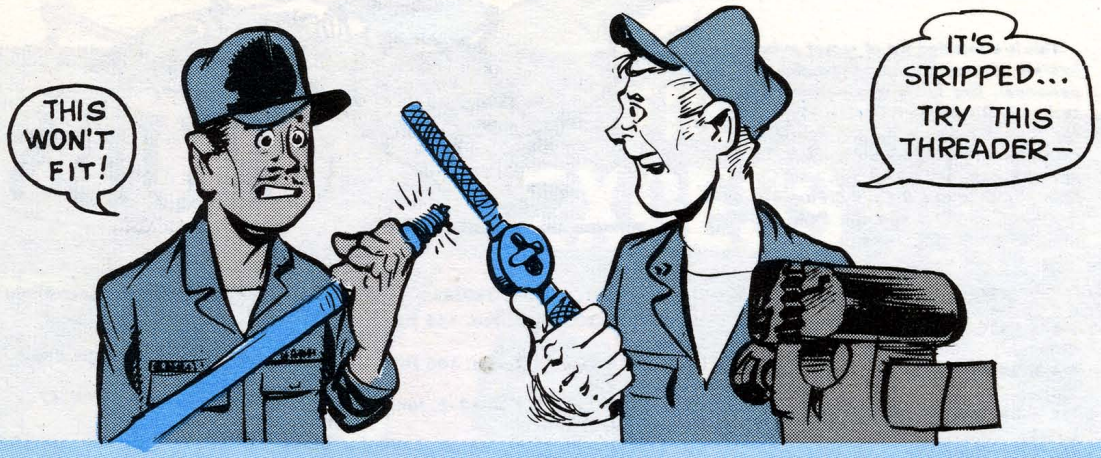
TAP, THREAD CUTTING: plug type

	thd size
5136-729-5693	¼-20NC
5136-276-1031	5/16-18NC
5136-276-1032	3/8-16NC
5136-729-5691	7/16-14NC
5136-729-5692	½-13NC
5136-729-5690	9/16-12NC
5136-223-6228	5/8-11NC
5136-729-5702	¾-10NC
5136-729-5701	7/8-9NC
5136-227-7260	1.0-8NC

DIESTOCK:

	die dia, in	o/a lg, in
5136-224-7113	1½	12 to 18
5136-224-7114	2½	22 to 32

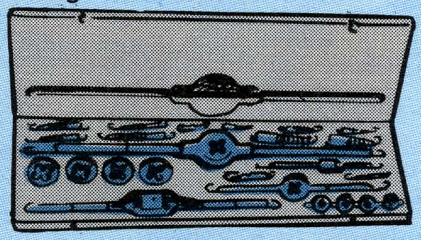
WRENCH TAP AND REAMER, ADJUSTABLE: straight type handle bolt tap holding cap., in.
5120-289-0537 ¼ to 1⅛



THREADING SET, SCREW: rh, thd rd split type dies w/case

FSN 5180-422-4975

Consisting of:



DIE, THREAD CUTTING

	thd size
5136-189-3194	¼-28NF
5136-189-3195	5/16-24NF
5136-189-3196	⅜-24NF
5136-189-3197	7/16-20NF
5136-189-3198	½-20NF
5136-189-3199	9/16-18NF
5136-189-3200	⅝-18NF
5136-189-3201	¾-16NF
5136-189-3238	⅞-14NF
5136-820-8090	1.0-12NF
5136-189-3239	1.0-14NS

CASE, THREADING SET
5410-322-5976

TAP, THREAD CUTTING:

	thd size
5136-580-7360	¼-28NF
5136-580-7359	5/16-24NF
5136-555-8910	⅜-24NF
5136-580-7182	7/16-20NF
5136-580-7184	½-20NF
5136-580-7186	9/16-18NF
5136-555-3177	⅝-18NF
5136-580-7342	¾-16NF
5136-580-7188	⅞-14NF
5136-820-2998	1.0-12NF
5136-580-7343	1.0-14NS

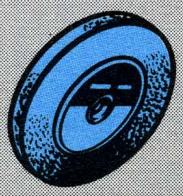
WRENCH TAP AND REAMER, ADJUSTABLE: straight type handle, tap holding cap., in.

5120-289-0539	no. 8 to ¾
5120-289-0537	¼ to 1⅛

DIESTOCK:

	od, in.	thk, in.	o/a lg, in.
5136-224-7113	1½	½	12 to 18
5136-224-7114	2½	¾	22 to 32

WHEEL, ABRASIVE: sp, al-oxide, 24 gr, no. 14, open gr spacing, resinoid bond, gr U, 7-in dia o/a, 2⅝-in dia recess, 7/16-in thk o/a, ⅞-in dia arbor hole



FSN 5130-542-3313 6

This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (Jun 70), and Ch 3 (Dec 70), TM's, TB's, etc.; DA Pam 310-6 (Jul 70), and Ch 2 (Jan 71), SC's and SM's; DA Pam 310-7 (Nov 70), MWO's; and DA Pam 310-9 (May 69), COMSEC Pubs.

TECHNICAL MANUALS

TM 5-2410-223-20P, Jan, Tractor, Crawler.
TM 5-2420-221-10, Feb, Indus Whld Tractor.
TM 5-3431-205-20P, Jan, Welding Equip.
TM 5-3610-241-14, Jan, Repro Set.
TM 5-3805-200-20P, Jan, Loaders.
TM 5-3805-205-15, Jan, Scrapers.
TM 5-4110-223-20P, Jan, 9,000 BTU Refrig Unit.
TM 5-4410-202-20P, Jan, Water Heaters.
TM 5-6115-261-20P, Jan. 15 KW Gen Sets.
TM 5-6115-574-20P, Feb, 100 KW Dsl Eng Gen Set.
TM 5-6115-575-20P, Feb, 100 KW Eng Drvn Gen Sets.
TM 5-6675-284-20P, Feb, Theodolite.
TM 9-1005-205-12, Dec, M1903A4 .30 Cal Rifle.
C2 TM 9-1005-257-12, Jan, XM18/XM18E1 Pod.
C1 TM 9-1005-257-20P, Jan, XM18/XM18E1 Armament Pod.
TM 9-1100-200-20P, Feb, Honest John.
TM 9-1410-375-20P, Jan, Pershing.
TM 9-1430-250-14P/22, Jan, Nike-Herc.
TM 10-3930-409-20P, Jan, Whse Tractors.
TM 11-5815-332-15, Jan, M577, M577A1 Radio Telewriter Set AN/VSC-3.
TM 11-5826-235-25-1, Jan, TACAN AN/ARN-52.

LUBRICATION ORDERS

LO 5-2010-202-12-1, Feb, 165 HP Outboard.
LO 5-2010-202-12-2, Feb, 165 HP Outboard.
LO 5-2410-227-12-1 & -12-2, Jan, Tractor, Full Trkd DED.
LO 5-2420-221-12-1, Jan, Med Whld Tractors.
LO 5-2420-221-12-2, Jan, Wheeled Tractor.
LO 5-2805-260-12, Feb, 40 HP Outboard Motors.
LO 5-3655-215-12, Jan, Cooling Tower, Semitrailer Mtd.
LO 5-3805-201-12-1 & -12-2, Feb, Scoop Type Loader.
LO 10-3930-409-12, Jan, Wheeled Tractor
LO 10-3930-618-12-1, Jan, Forklift Truck.
LO 10-3930-618-12-2, Jan, Gas Forklift Truck.

MODIFICATION WORK ORDERS

9-1400-250-30/54 & -30/63, Feb, Nike-Herc.
9-1430-251-30/42, Feb, Nike-Herc.
9-1430-253-30/28 & -30/32, Feb, Nike Herc.
9-1430-252-30/2/21, Feb, Nike-Herc.
9-1430-510-30/22, Dec, Hawk Radar Set AN/MPQ-37.
9-2300-395-20/1, Mar, Combat Engr Veh M42, M42A1 Gun, FA S/P 155MM.
9-2350-230-20/1, Feb, M551 Replacement of Headrest on Periscope.
9-2350-230-30/4, Mar, Armd Recon/Abn Veh (ARR-AAV).
11-6230-219-30/2, Feb, Searchlights AN/VSS-1, -1A, -1B, -1C, -1D, AN/VSS-2.
55-1500-210-20/2, Mar, CH-47A-B-C.
55-1500-210-20/3, Mar, CH-47A-B-C.
C1 55-1500-219-30/1, Mar, UH-1B, C.
55-1510-201-30/17, Feb, for Antenna Coupler CU-1658/A in U-8F.
55-1510-201-40/9, Feb, Discrete Sig Discriminator MD-736/A.
55-1510-209-30/20, Feb, U-21.
C3 55-1520-210-30/16, Feb, UH-1D, H.
55-1520-210-30/33, Feb, UH-1D-1H.
C4 55-1520-210-40/1 Mar, UH-1D-1H.
C1 55-1520-210-40/3, Mar, UH-1D-1H.

TECHNICAL BULLETINS

TB 55-1520-202-20/6, Feb, CH-34.
TB 55-1520-221-20/4, Feb, AH-1G.
TB 55-1615-249-30/1, Feb, CH-34.
TB 55-1680-304-30/1, Mar, All Fixed & Rotor Wing.
TB 55-8100-200-25, Feb, All F/W & R/W.

MISCELLANEOUS

AR 700-88, Jan, Commercial Design Veh.
SB 11-628, Feb, H-251/U Elec Headset with AN/PPS-5 Radar Set.
SB 742-1340-92-005, Feb, Honest John.
SB 742-1340-92-006, Feb, Honest John.

MWO of the MONTH

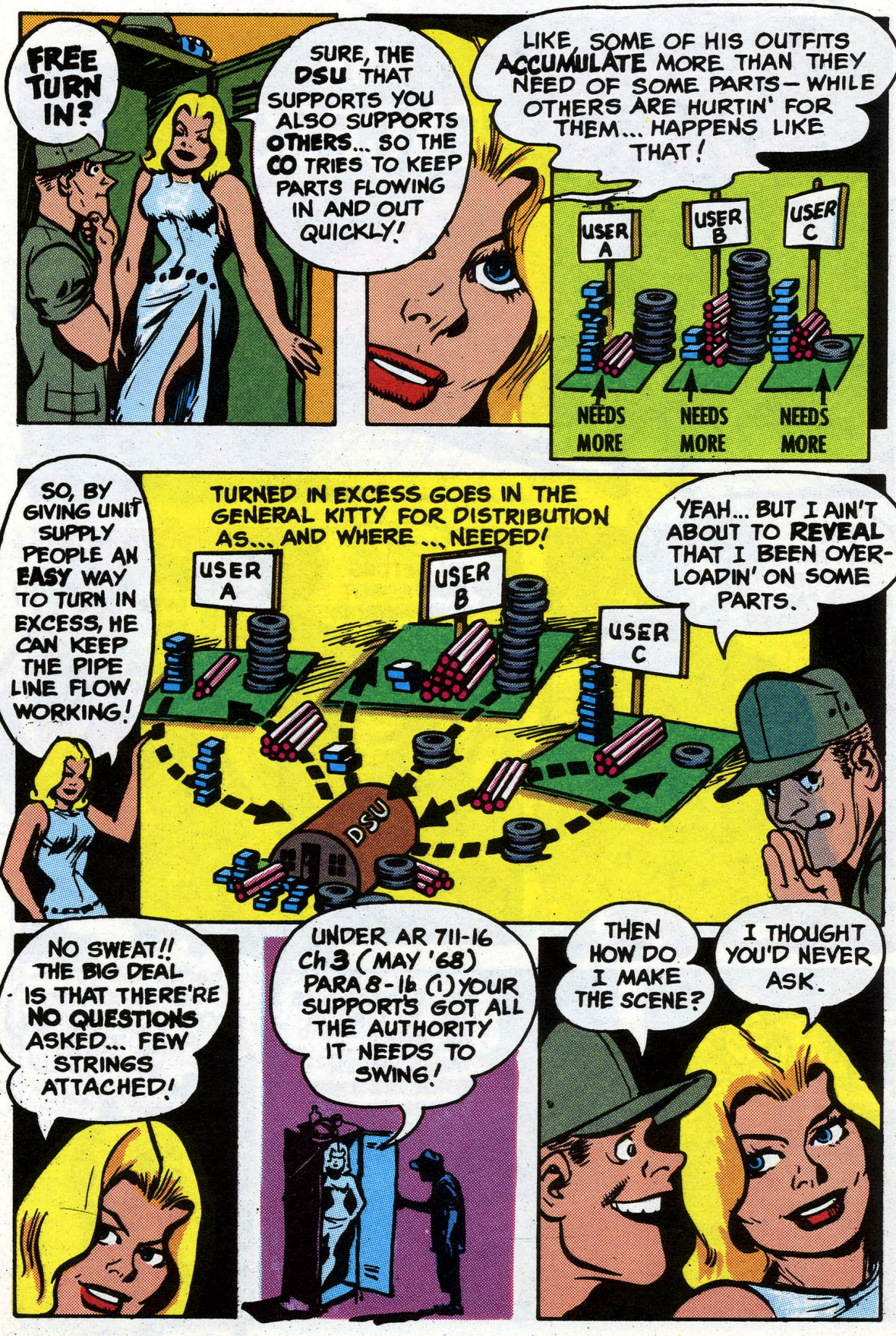
You mix spilled fuel and battery sparks at your peril. And that's just what you're doing if you're towing 5,000-gal fuel tanker semitrailer M131A4 with a serial number from 1 thru 115 and haven't had your DS apply MWO 9-2330-272-30/1 (Oct 69). It relocates the battery and battery box. Enter that MWO on a DA Form 2408-5 for the semi and send a DA Form 2407 MWO request to your DS **now.**

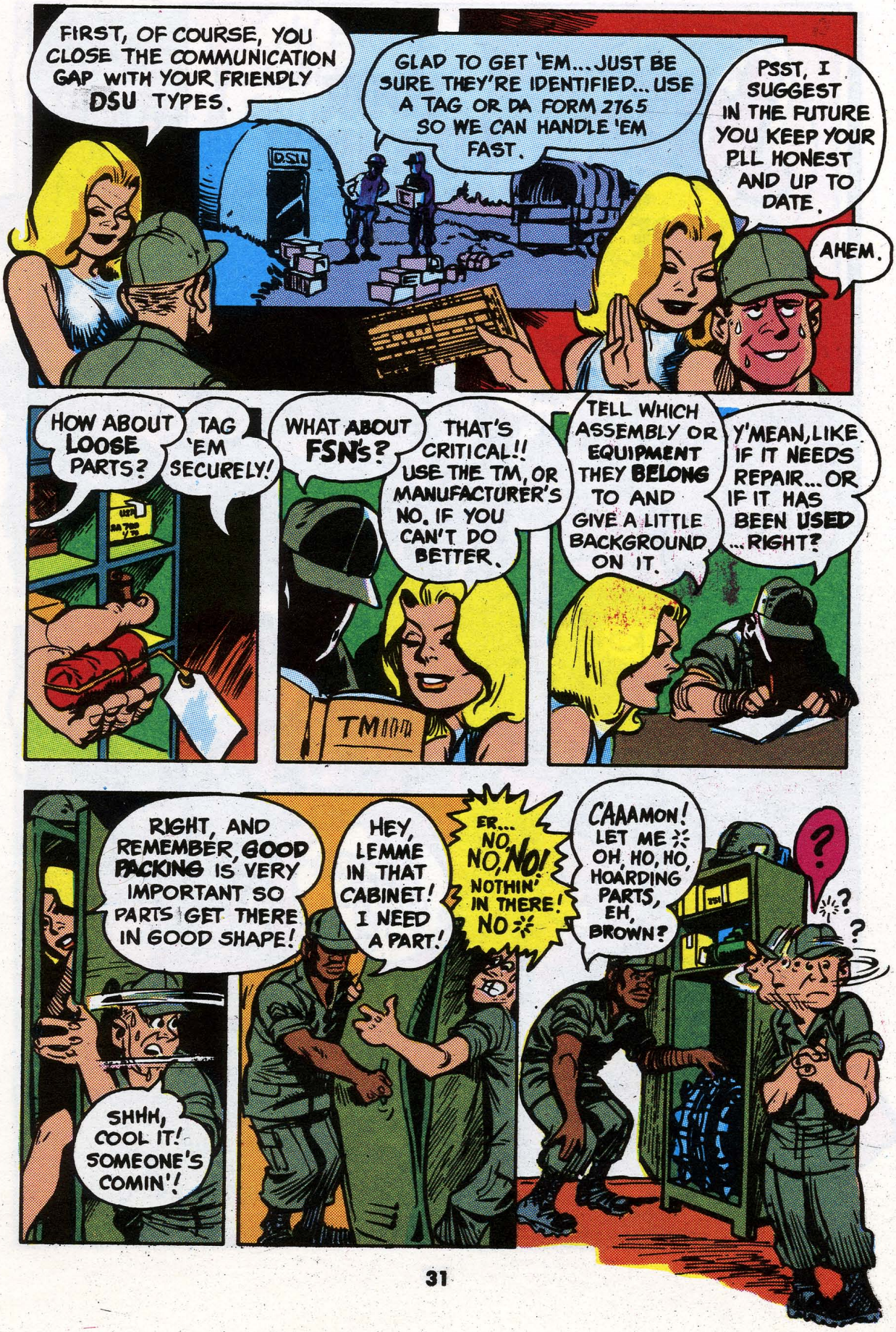
Order Your Pubs

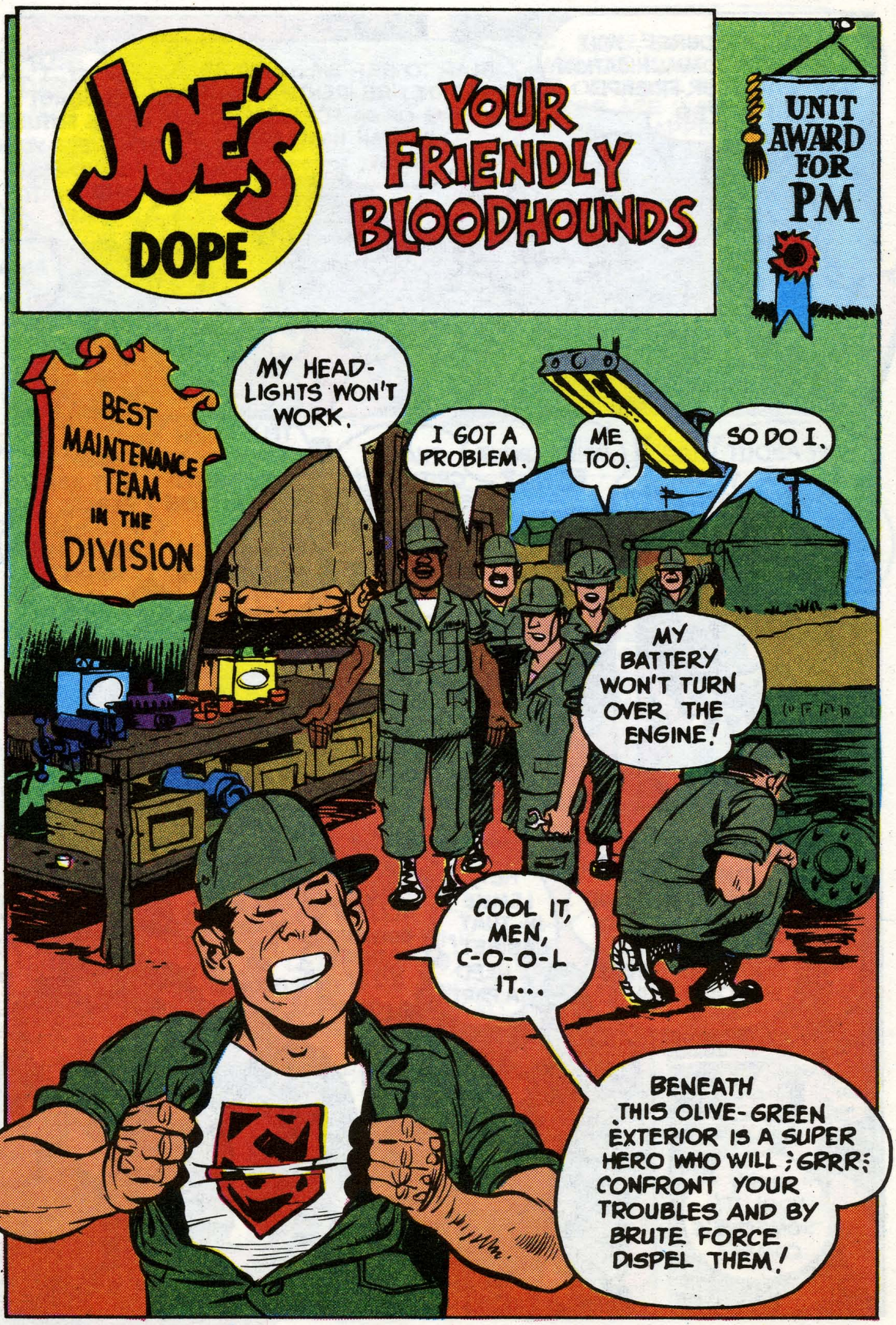
If you need Army chemical equipment pubs, better get your needs down on DA Form 12-28 (Dec 70), so you'll not miss 'em. DA Circular 310-6 (Mar 71) gives you the word.

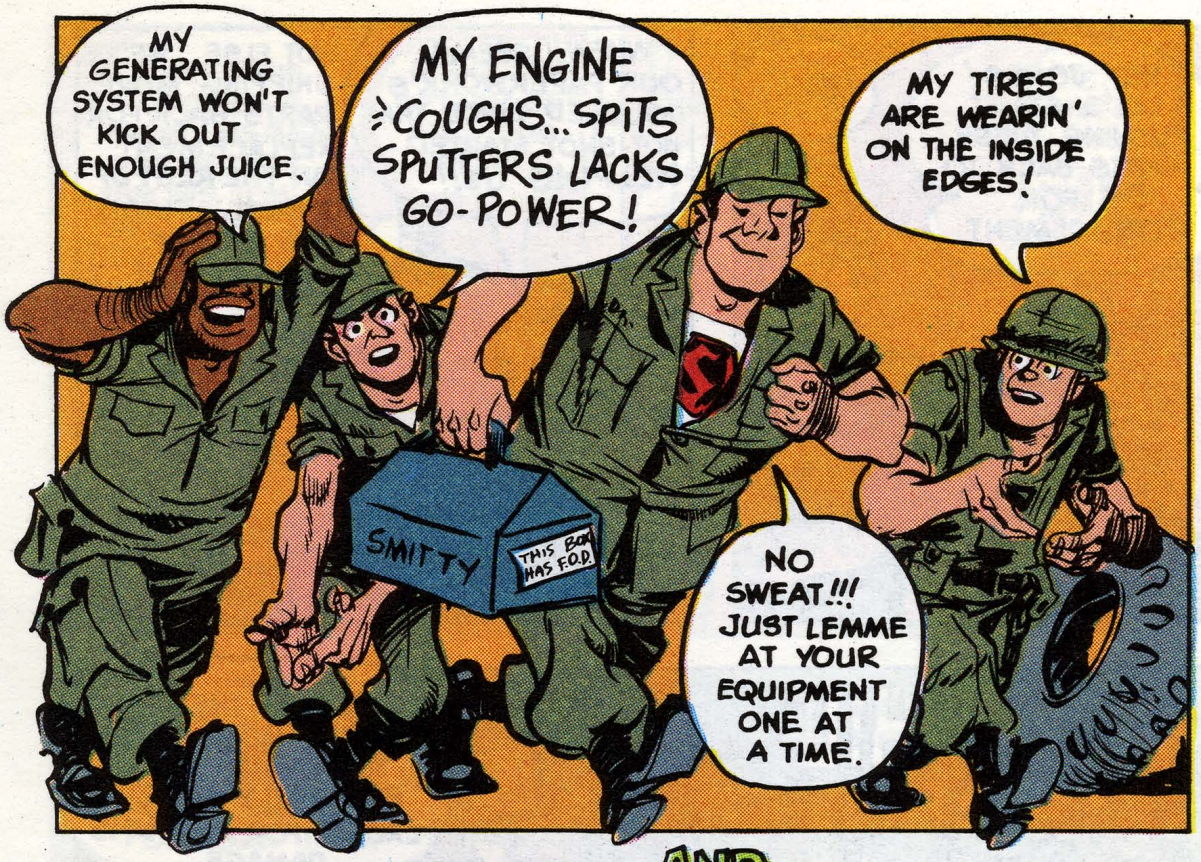
Better get hold of revised DA Form 12-40 (Feb 71) so you can send a list of your needs for ammo pubs to the St. Louis AG Pubs Center.

JOE'S DOPE
THE EXCESS
EH?
?
GOT LOTS OF EXCESS??
BINS CLUTTERED UP WITH REPAIR PARTS YOU'LL NEVER NEED??
?
MOST OF 'EM GETTING RUSTY... NOT DOIN' ANYBODY ANY GOOD.
EVER THINK OF TURNING THEM IN?
SLAM
BUT I DON'T HAVE TIME TO TURN IN THE STUFF... IT TAKES PAPER WORK, PERSONNEL ... I GOT A LOTTA SHORT-TIMERS HERE.
DID YOU CHECK Y'R DSU'S SOP ON FREE TURN IN?

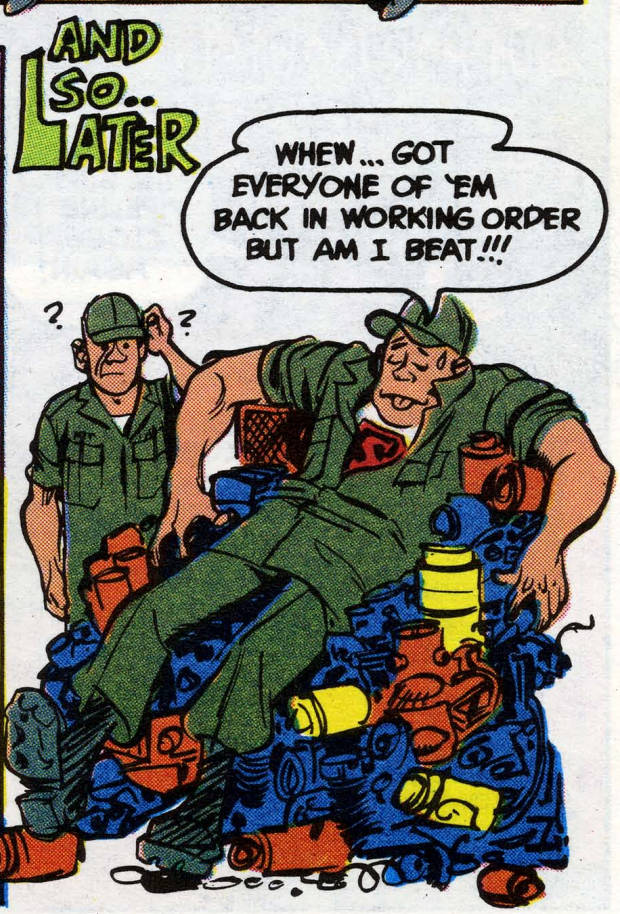

FREE TURN IN?
SURE, THE DSU THAT SUPPORTS YOU ALSO SUPPORTS OTHERS... SO THE CO TRIES TO KEEP PARTS FLOWING IN AND OUT QUICKLY!
LIKE, SOME OF HIS OUTFITS ACCUMULATE MORE THAN THEY NEED OF SOME PARTS— WHILE OTHERS ARE HURTIN' FOR THEM... HAPPENS LIKE THAT!
USER A
USER B
USER C
NEEDS MORE
NEEDS MORE
NEEDS MORE
SO, BY GIVING UNIT SUPPLY PEOPLE AN EASY WAY TO TURN IN EXCESS, HE CAN KEEP THE PIPE LINE FLOW WORKING!
TURNED IN EXCESS GOES IN THE GENERAL KITTY FOR DISTRIBUTION AS... AND WHERE ... NEEDED!
USER A
USER B
USER C
DSU
YEAH... BUT I AIN'T ABOUT TO REVEAL THAT I BEEN OVER-LOADIN' ON SOME PARTS.
NO SWEAT!! THE BIG DEAL IS THAT THERE'RE NO QUESTIONS ASKED... FEW STRINGS ATTACHED!
UNDER AR 711-16 Ch 3 (MAY '68) PARA 8-1b (1) YOUR SUPPORT'S GOT ALL THE AUTHORITY IT NEEDS TO SWING!
THEN HOW DO I MAKE THE SCENE?
I THOUGHT YOU'D NEVER ASK.


FIRST, OF COURSE, YOU CLOSE THE COMMUNICATION GAP WITH YOUR FRIENDLY DSU TYPES.
GLAD TO GET 'EM... JUST BE SURE THEY'RE IDENTIFIED... USE A TAG OR DA FORM 2765 SO WE CAN HANDLE 'EM FAST.
PSST, I SUGGEST IN THE FUTURE YOU KEEP YOUR PLL HONEST AND UP TO DATE.
AHEM.
HOW ABOUT LOOSE PARTS?
TAG 'EM SECURELY!
WHAT ABOUT FSN's?
THAT'S CRITICAL!! USE THE TM, OR MANUFACTURER'S NO. IF YOU CAN'T DO BETTER.
TM
TELL WHICH ASSEMBLY OR EQUIPMENT THEY BELONG TO AND GIVE A LITTLE BACKGROUND ON IT.
Y'MEAN, LIKE IF IT NEEDS REPAIR... OR IF IT HAS BEEN USED ...RIGHT?
RIGHT, AND REMEMBER, GOOD PACKING IS VERY IMPORTANT SO PARTS GET THERE IN GOOD SHAPE!
HEY, LEMME IN THAT CABINET! I NEED A PART!
ER... NO, NO, NO! NOTHIN' IN THERE! NO!
CAAAMON! LET ME OH, HO, HO, HOARDING PARTS, EH, BROWN?
SHHH, COOL IT! SOMEONE'S COMIN'!


JOE'S DOPE
YOUR FRIENDLY BLOODHOUNDS
UNIT AWARD FOR PM
BEST MAINTENANCE TEAM IN THE DIVISION
MY HEAD-LIGHTS WON'T WORK.
I GOT A PROBLEM.
ME TOO.
SO DO I.
MY BATTERY WON'T TURN OVER THE ENGINE!
COOL IT, MEN, C-O-O-L IT...
BENEATH THIS OLIVE-GREEN EXTERIOR IS A SUPER HERO WHO WILL ;GRRR; CONFRONT YOUR TROUBLES AND BY BRUTE FORCE DISPEL THEM!


MY GENERATING SYSTEM WON'T KICK OUT ENOUGH JUICE.
MY ENGINE COUGHS...SPITS SPUTTERS LACKS GO-POWER!
MY TIRES ARE WEARIN' ON THE INSIDE EDGES!
SMITTY
THIS BOX HAS F.O.D.
NO SWEAT!!! JUST LEMME AT YOUR EQUIPMENT ONE AT A TIME.

LET'S SEE...WE'LL JUST REPLACE ALL THESE PARTS TILL WE HIT THE TROUBLE!
ONE OF 'EM MUST BE THE BAD ONE.


AND SO.. LATER
WHEW... GOT EVERYONE OF 'EM BACK IN WORKING ORDER BUT AM I BEAT!!!
? ?

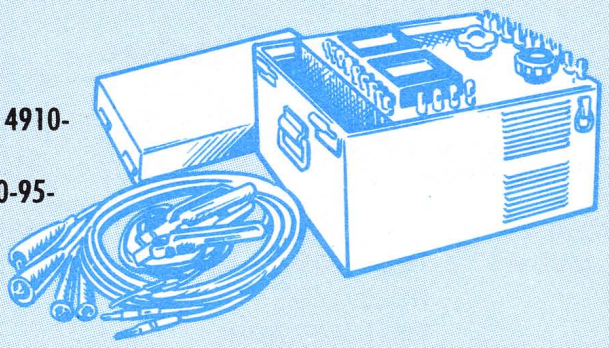
HEY, JONES! LET'S START PUSHING THESE PARTS BACK TO DS FOR REPLACEMENT.
OK!
WHEW!! SEEMS OUR PAPERWORK'S DOUBLED SINCE THAT HOT-SHOT STARTED HELPING US!!
WOT ELSE... WE'RE SHIPPING MORE PARTS BACK FOR REPLACEMENT THAN THE REST OF DIVISION... FUNNY THING IS OUR MISSION'S THE SAME THO-
MEANWHILE BACK AT THE SUPPORT OUTFIT
LOOK AT THESE PARTS... MOST OF 'EM TURNED IN ARE PERFECTLY GOOD! EXCEPT FOR HANDLING DAMAGE.
OOOHH, THE SUPPLY PIPELINE IS CLOGGED AGAIN!
SPENT A WEEK TESTING PARTS ONLY TO FIND THEY'RE OK... WHAT A WASTE OF TIME!
Y'SEE, CONNIE... THAT OL' TRIAL 'N' ERROR MAINTENANCE DISEASE HAS BUSTED OUT AGAIN.
YES, IT COULD INFECT THE WHOLE SUPPLY SYSTEM. UP FRONT- THEY LAY-IN PARTS BASED ON USAGE.

I SEE, THIS CREATES A PHONEY USAGE PICTURE THAT THROWS 'EM OFF... THEN THEY BUY TOO MUCH OR TOO LITTLE!
RIGHT... I'D BETTER GET INTO THIS PRONTO!
LATER
AWW, C'MON, CONNIE... ONLY WAY TO TROUBLE SHOOT IS TRIAL 'N' ERROR.
IT'S THE HARD WAY.
IT'S EASIER.
TROUBLE-SHOOTING IS THE ART OF LOCATING THE TROUBLESOME PART IN THE SHORTEST POSSIBLE TIME.
MAN, Y'CAN'T TELL A SICK PART BY JUST LOOKIN' AT IT...
NOW, IF I ONLY HAD ME SOME BLOODHOUNDS... THAT COULD TRACK DOWN...
THE EASIEST WAY TO TROUBLE SHOOT IS TO USE YOUR "BLOODHOUNDS".
BLOODHOUNDS? WHERE??

1. Doesn't diagnose equipment by guessing.
2. Keeps good components off the scrap heap.
3. Doesn't bog down the supply system by requesting unnecessary parts.
4. Doesn't waste support's time checking out good parts.
5. Holds equipment down-time to a minimum.
6. Saves money, time and work.
7. Provides elements of safety and good housekeeping.
8. Sets a good example for OJT's.
9. Improves maintenance of his outfit's equipment.
10. Is respected as a man who knows his stuff.

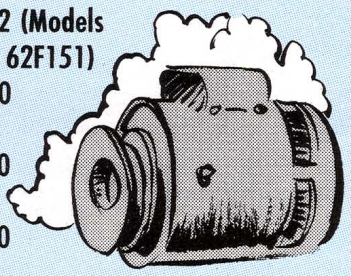
HERE'S THE TEST EQUIPMENT AND KNOW-HOW THAT'LL PUT YOU IN THE GROOVE . . .

LOW-VOLTAGE-CIRCUIT TESTER (TEST SET, GENERATOR AND VOLTAGE REGULATOR) FSN 4910-092-9136 OR 4910-270-3780



Found In
Tool Sets .....No. 1 Supplemental—SC 4910-95-CL-A73
No. 2 Common—SC 4910-95-CL-A72

Tell How
It's Used .....TM 9-4910-401-12 (Models 10308 and TV-100)
TM 9-4910-402-12 (Models 1060, 1060A and 62F151)
TM 9-4910-448-10 (Model 30-82)
TM 9-4910-456-10 (Model 30-92)
TM 9-4910-472-10 (Model VAT-25)
Equipment's -20 TM (like TM 9-2320-218-20 Section VI) Training Film 9-3536



Used For .....Testing the voltage setting, and amperage draw of the starter, battery, generator, alternator, and voltage regulator on all internal combustion engines. When used on 24-volt waterproof electrical systems, Adapter Kit FSN 4910-348-7600 is needed.

Test Prevents .....Unnecessary replacement of good starters, generators, alternators, switches, regulators, wiring cables and other charging system electrical components.

GAGE, TIRE PRESSURE, SELF-CONTAINED: FSN 4910-204-3170

Found In
Tool Sets .....No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72

Used ..... To check and adjust tire pressure in pneumatic tires.

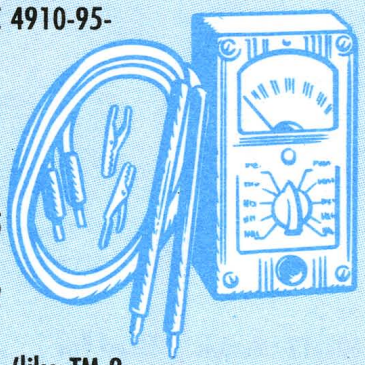
Tell How
It's Used .....TM 9-1870-1

Test Prevents .....Ruining good tires.

PS MORE

MULTIMETER:
FSN 6625-543-1438 (SIMPSON TYPE OR TRIPLETT 666HH)
FSN 6625-975-4482 (TRIPLETT 666RW)
FSN 6625-553-0142 (TS-352B/U)
FSN 6625-581-2036 (AN/URM-105)

Found In Tool Sets ..... No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72
Separate TOE item



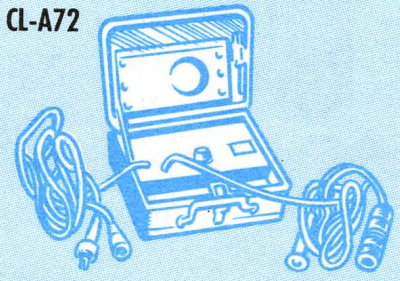
Used For ..... Testing and checking AC and DC voltages. And switches, batteries, alternators, lamps, cable connections, starters, wiring harnesses, etc., for continuity (open or short circuit). Also to test and check the resistance of various electrical components and circuits.

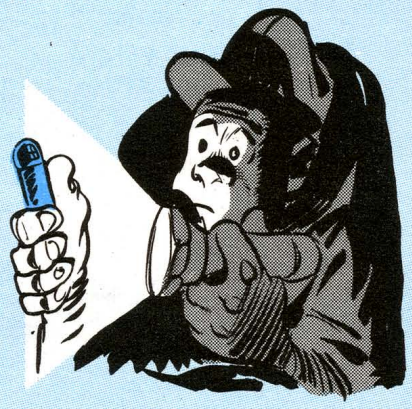
Tell How It's Used ..... TM 11-6625-366-15 (TS-3528/U)
TM 11-6625-203-12 (AN/URM-105)
Equipment's -20 TM (like TM-9 2320-218-20, Section VI)
Training Film 11-1667

Test Prevents ..... All of the mentioned items from being removed as faulty when they are not.

LIGHT, IGNITION TIMING:
FSN 4910-937-5724

Found In Tool Sets ..... No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72

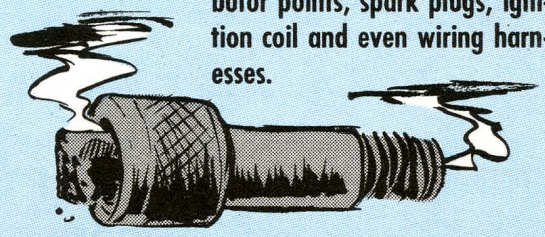




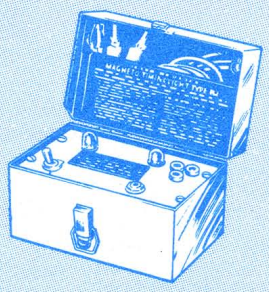
Tell How It's Used ..... Vehicle/equipment -20 TM like TM 9-2320-218-20 (page 2-63)
Training Film 9-2194

Used For ..... Testing and setting ignition timing on most gasoline engines. One of the tests made when the engine spits and sputters.

Test Prevents ..... Unnecessary changing of distributor points, spark plugs, ignition coil and even wiring harnesses.



LIGHT, TIMING, MAGNETO: FSN 4910-255-1449



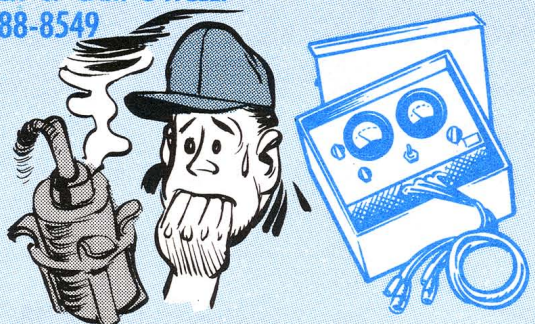
Found In
Tool Sets ..... No. 1 Supplemental—SC 4910-95-CL-A73

Tell How
It's Used ..... Equipment -20 TM (like TM 9-2350-214-20)

Used For ..... To test, set and synchronize magnetos on dual-ignition gasoline engines.

Test Prevents ..... Replacing good spark plugs, carburetor, wiring harnesses, magneto points and even the magneto itself.

TEST SET, TACHOMETER & CAM DWELL: FSN 4910-788-8549



Found In
Tool Sets ..... No. 1 Supplemental—SC 4910-95-CL-A73
No. 2 Common—SC 4910-95-CL-A72

Tell How
It's Used ..... TM 9-4910-416-12
Training Film 9-2193

Used For ..... All gasoline engines to test or set the gap setting on the distributor points and the engine RPM.

Test Prevents ..... Changing coil, distributor, spark plugs and other parts of the ignition system unnecessarily.

CYLINDER, COMPRESSION GAGE: FSN 4910-250-2423

Found In
Tool Sets ..... No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72

Tell How
It's Used ..... TM 9-4910-430-10
TM 9-4910-433-10
Training Film 9-2194

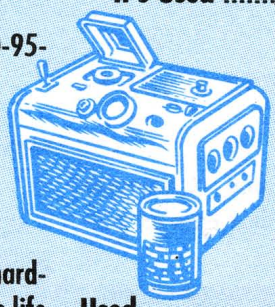
Used For ..... Testing all gasoline engines' cylinders for the right pound per square inch pressure. It'll indicate which cylinder has bad rings, valves or leaky gasket.

Test Prevents ..... Pulling and changing the carburetor, distributor, fuel pump etc., unnecessarily when engine cranks but fails to start due to low cylinder compression.

P.S MORE

SPARK PLUG TESTER AND CLEANER: FSN 4910-261-5868

Found In
Tool Sets .....No. 1 Supplemental—SC 4910-95-CL-A73
No. 2 Common—SC 4910-95-CL-A72



Tell How
It's Used .....TM 9-4910-465-10 (Model 601)
TM 9-4910-471-10 (Model B800M)
TM 9-4910-438-10 (Model 1129)
TM 9-4910-389-10 (Champion 600,800 series)

Test Prevents .....Throwing away good and hard-to-get spark plugs that have life left in them.

Used .....To test and clean spark plugs used in gasoline engines.

INTERNAL COMBUSTION ENGINE GAGE: (VACUUM/FUEL PUMP GAGE) FSN 4910-255-8673

Found In
Tool Sets .....No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72
No. 2 Supplemental—SC 4940-95-CL-A08

Tell How
It's Used .....TM 9-4910-477-10 and every vehicle -20 TM.
Training Film 9-2194

Used For .....Checking the engine manifold vacuum and fuel pump pressure. It's a trouble-shooting aid to pin-point gasoline engine malfunctions like bad head gasket, worn or poorly fitted piston rings, poor carburetion, bad valve timing, stuck valves, leaks in intake manifold, clogged fuel line and a lot more.

Test Prevents .....Pulling and switching the carburetor, fuel pump, spark plugs, distributor because you think the trouble is in those components.

TESTER, SPRING RESILIENCY: FSN 6635-449-3750

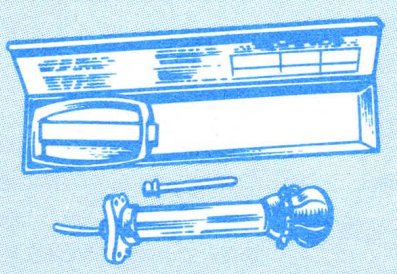
Found In
Tool Sets .....No. 1 Supplemental—SC 4910-95-CL-A73
No. 2 Common—SC 4910-95-CL-A72

Tell How
It's Used .....Vehicle's -20 TM.

Used For ..... Testing the pull (tension) required to open distributor points.

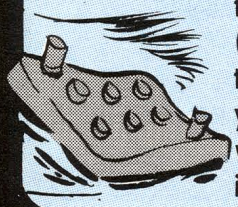
Test Prevents .....Replacing good distributor points when only spring tension needs adjustment.

BATTERY HYDROMETER:
FSN 6630-171-5126 *FSN 6630-105-1418

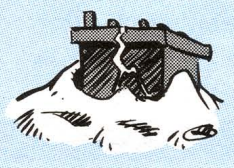


Found In
Tool Sets ..... No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72

Tell How It's Used .....TM 9-6140-200-15

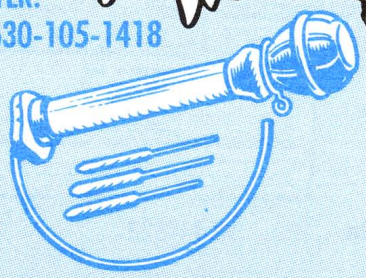


Used For .....Testing the specific gravity (battery charge) of the electrolyte (sulfuric acid and water solution) of lead-acid batteries. Lets you know which cell is bad, and when the battery needs charging.



Test Prevents .....Working or replacing parts on the equipment's charging system when the battery is at fault. Leaving a low charged battery out in cold to freeze. Scrapping good batteries.

ANTIFREEZE HYDROMETER:
FSN 6630-449-6609 *FSN 6630-105-1418



Found In
Tool Sets .....No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72

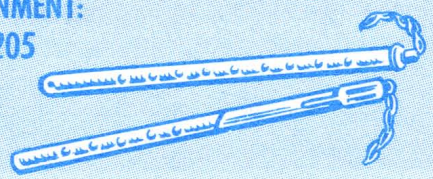
Tell How It's Used .....TM 9-2858
TB 750-651
Manufacturer's instructions on container.

Used For .....Testing specific gravity of antifreeze and water solution in engines having a liquid-type cooling system.

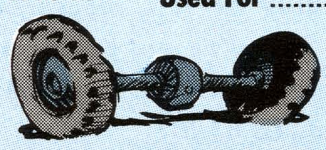
Test Prevents .....Engines freezing up or block cracking in below freezing ambient temperatures.

*Combination battery and antifreeze hydrometer.

GAGE, WHEEL ALIGNMENT:
FSN 5210-529-1205



Found In
Tool Sets .....No. 1 Common—SC 4910-95-CL-A74
No. 2 Common—SC 4910-95-CL-A72



Tell How It's Used .....TM 9-1870-1
Vehicle's -20 TM

Used For .....Testing and adjusting a wheeled vehicle's front wheels' toe-in or toe-out (and rear wheels on the M561 Gama Goat)

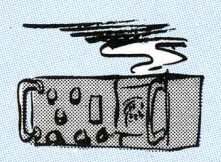
Test Prevents .....Ruining tires, hard steering

P.S MORE

ELECTRON TUBE TESTER TV-7( )/U: FSN 6625-376-4939 OR 6625-820-0064

Found In .....TOE item

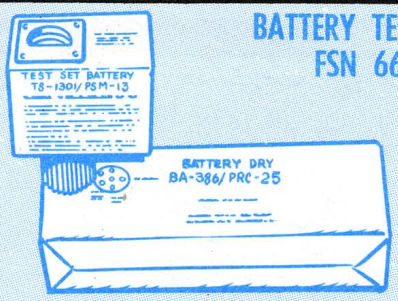
Tells How It's Used .....TM 11-6625-274-12



Used For .....Testing and measuring capabilities of electron tubes used in receivers, low powered transmitters and other electronic equipment.

Test Prevents .....Throwing away good tubes. Tearing into perfect circuits when only a tube is faulty.

BATTERY TEST SET AN/PSM-13: FSN 6625-868-8344



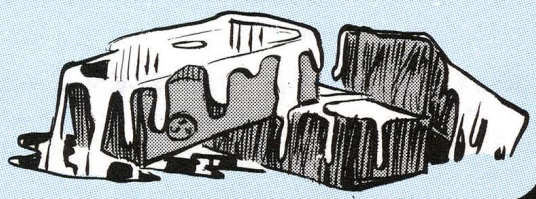
Found In .....SB 11-623

Tell How It's Used .....TM 11-6625-823-15

Test Prevents .....Throwing away good batteries that have many more hours of useful life. And keeps you from moving out on a mission with short-life batteries.

Used For .....Testing the batteries used in these radios: AN/PRC-6, 8, 9, 10, 25, 74, 77; AN/PRR-9, AN/PRT-4.

By battery number they are: BA-270/U, BA-279/U, BA-376/U, BA-377/U, BA-386/PRC-25, BA-398/PRC-25, BA-399/U and BA-505/U.



Some of the FSN's listed may not be the same for the item in your supply catalog or listed in the AMDF. That's because those items were issued long ago but are still good. You don't need to replace 'em till they can no longer be repaired economically.

There's a new outfit working on test, measuring and diagnostic equipment. They want to hear you. So, if you've got problems, questions or suggestions on TMDE, write to: Commanding General, U.S. Army Weapons Command, ATTN: AMSWE-TMDE, Rock Island, IL 61201.

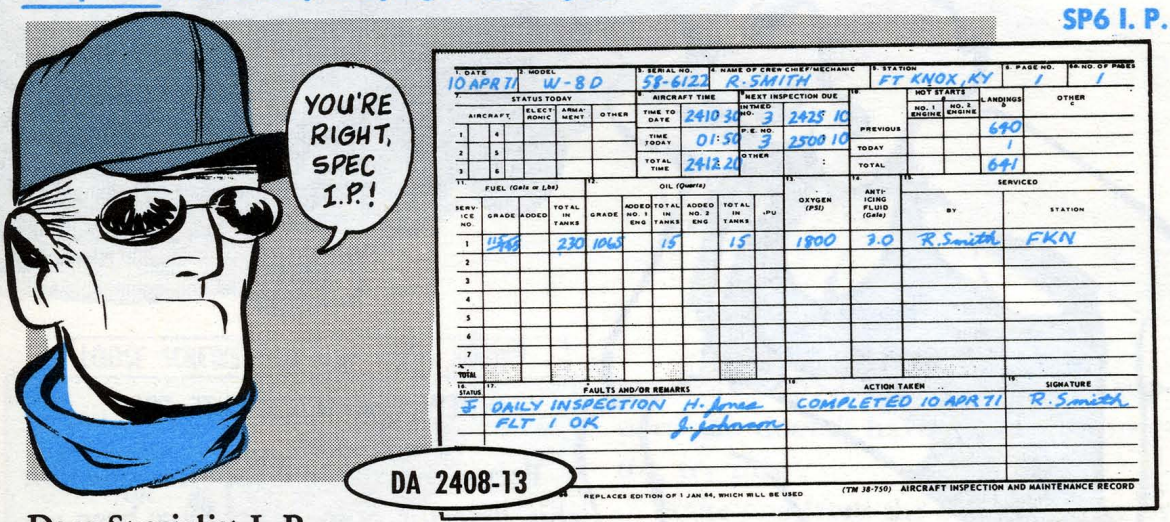
A L-O-N-G DAILY

Dear Windy,

We have a difference of opinion brewing here about how long a Daily inspection is current without having to pull another one.

My buddy says we have to do a PMD and fill out a new DA Form 2408-13 after an aircraft has been idle several days. I disagree. I say there's no time limit on the validity of the Daily inspection . . . and once the Daily is done it's good until after the aircraft completes another day of flying. Who's right?

SP6 I. P.



Dear Specialist I. P.,

You are. That's the poop in TB 55-1500-301-25 (Feb 70).

Remember, tho, the caution in para 4a(1) says in the event the aircraft is not flown for an extended period of time the maintenance officer will insure that the scope of the flight readiness inspection is **adequate** to insure safety of flight (para 3d).

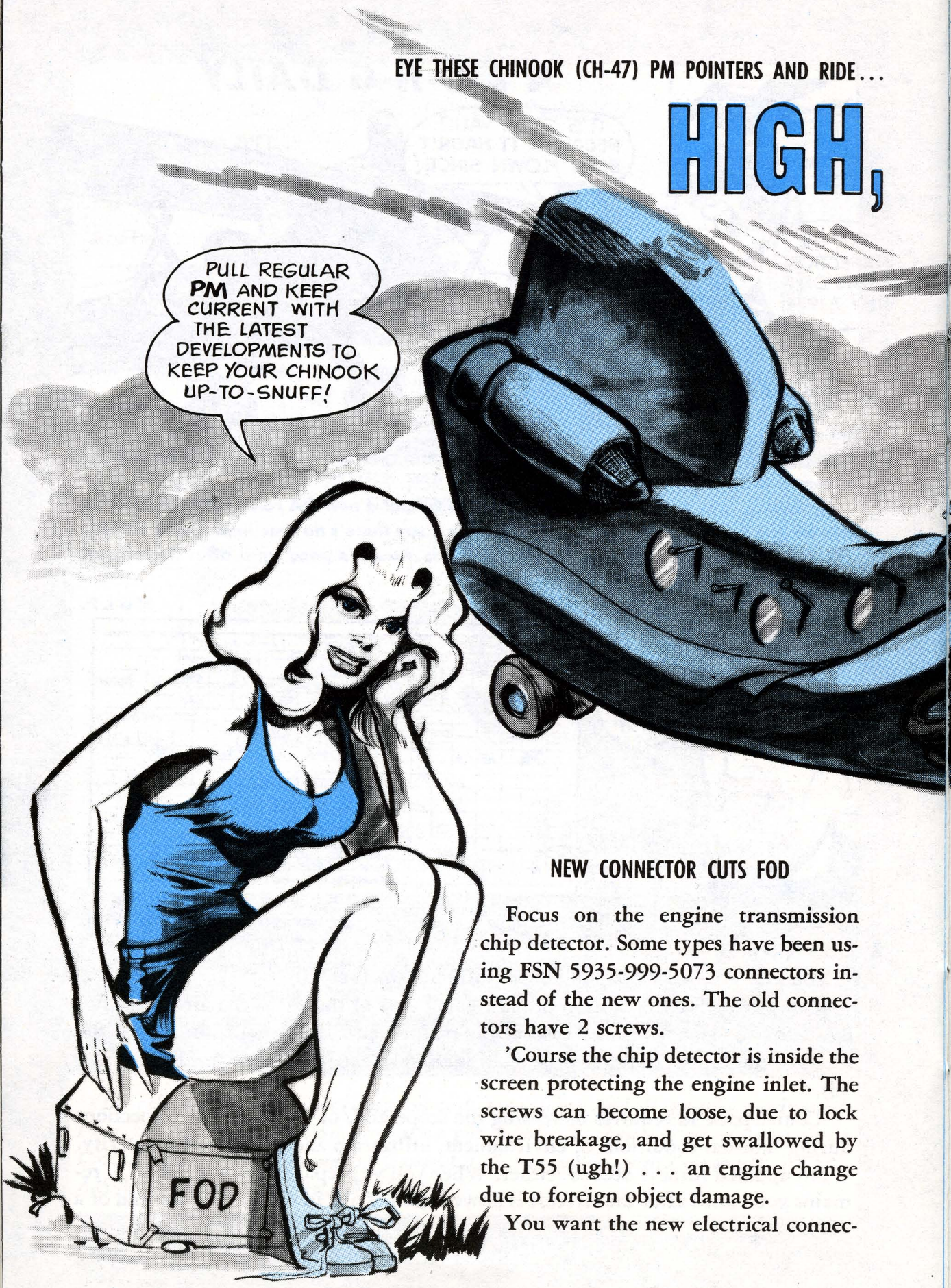
'Course para 3d requires increasing the scope and/or freqeuncy of inspections during unusual conditions of environment, utilization and **periods of inactivity.**

No updated form is needed, either. When you've prepared a new 2408-13, it remains good until after the aircraft is flown again. Turn in the form at the end of a days flying.

Windy

EYE THESE CHINOOK (CH-47) PM POINTERS AND RIDE...

HIGH,



NEW CONNECTOR CUTS FOD

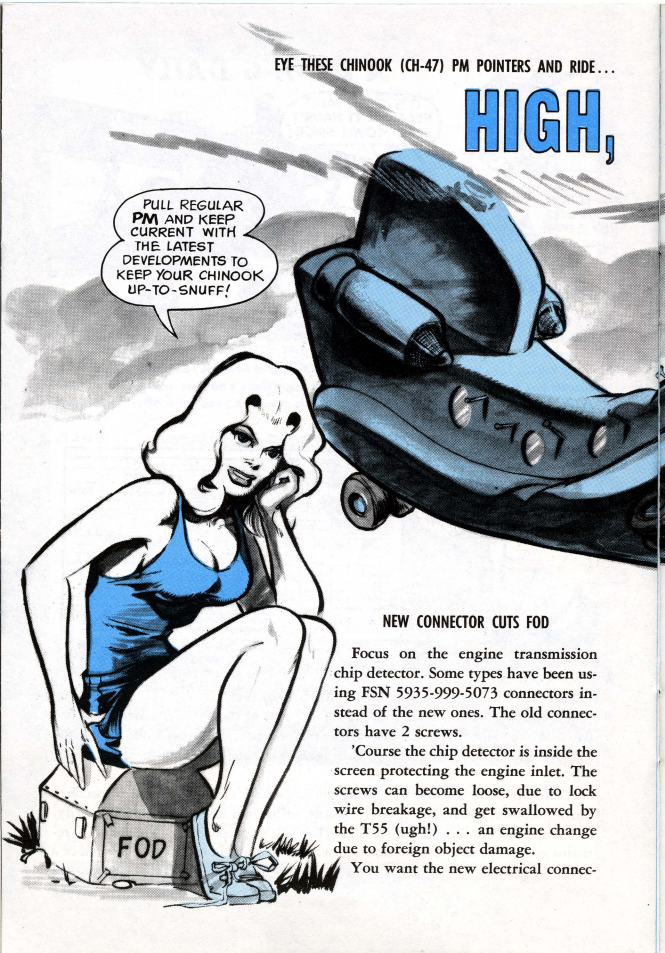
Focus on the engine transmission chip detector. Some types have been using FSN 5935-999-5073 connectors instead of the new ones. The old connectors have 2 screws.

'Course the chip detector is inside the screen protecting the engine inlet. The screws can become loose, due to lock wire breakage, and get swallowed by the T55 (ugh!) . . . an engine change due to foreign object damage.

You want the new electrical connec-

EYE THESE CHINOOK (CH-47) PM POINTERS AND RIDE...

HIGH, WIDE and HANDSOME



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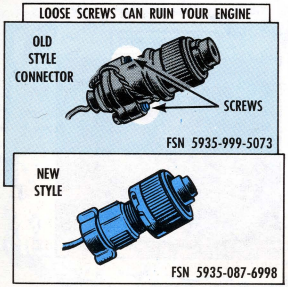
You want the new electrical connector, FSN 5935-087-6998. If your support unit doesn't have the new connector, try this.

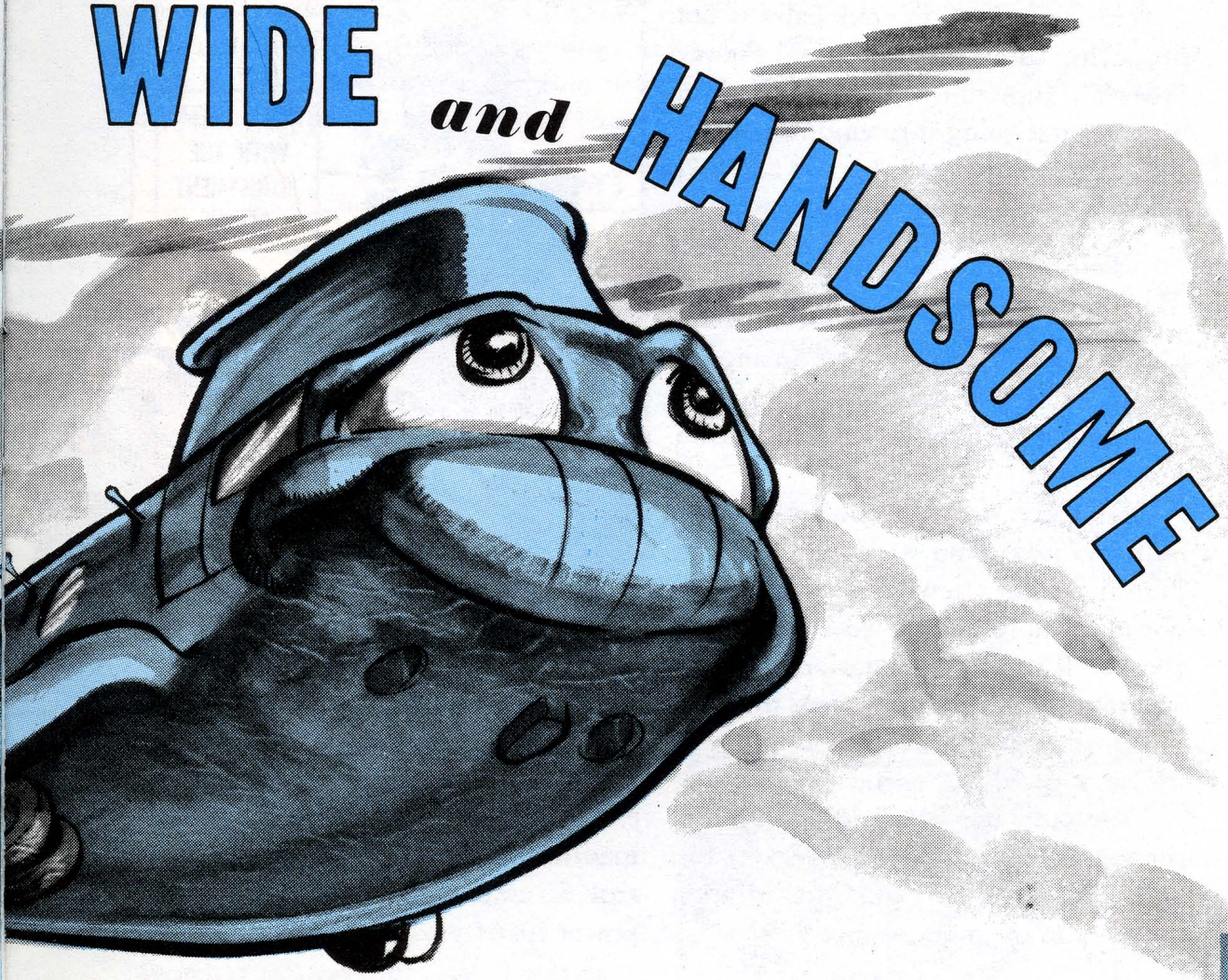


Make one from the old connector by discarding the MS strain relief clamp and installing the screw-on gland portion of an unserviceable new-type connector.

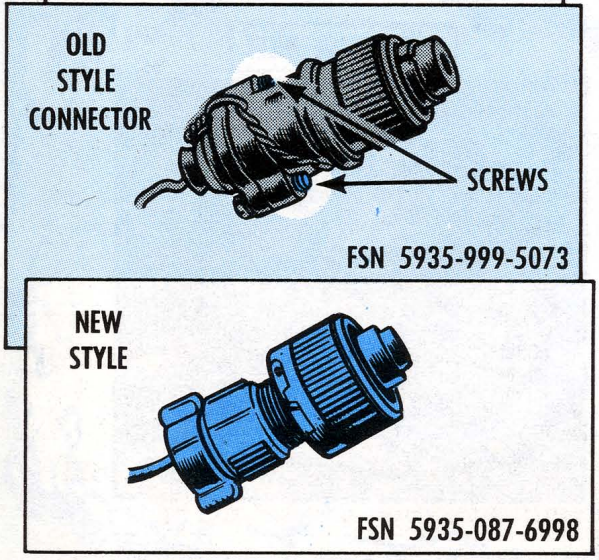
If the rubber center of a connector swells past the connector shell to prevent seating, here's the fix: Cut the rubber off so that only 1/32-inch extends past the connector shell. Then the detector plug will seat.

PS MORE

WIDE *and* HANDSOME



LOOSE SCREWS CAN RUIN YOUR ENGINE



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P.S MORE

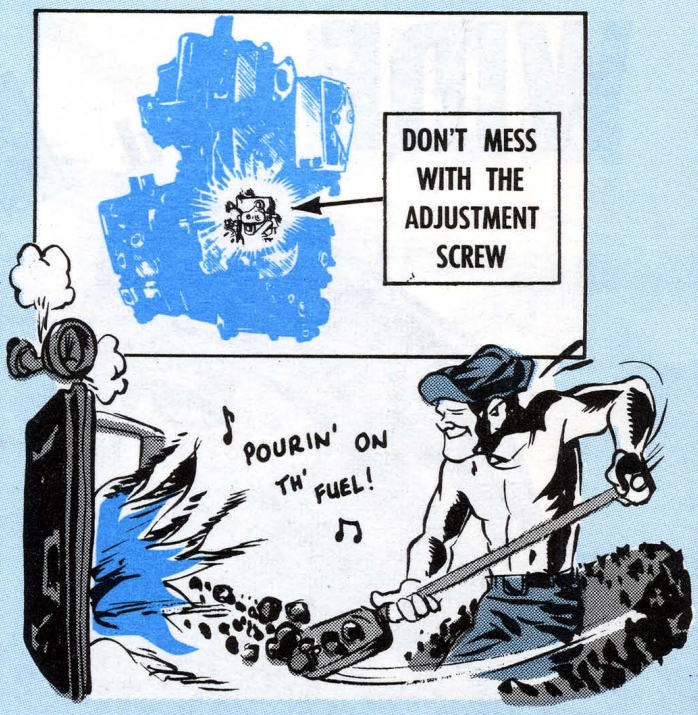
LOW POWER?

When that T55 in your baby is not producing the power you should never "tweek" (up-trim) the fuel control without first going thru engine trouble-shooting. Eye Tables 5-2 or 5-3 and 5-7, of the organizational maintenance pub — depending on which bird model you have.

The gas producer limit for each engine is based on the limit set during acceptance test. The control is adjusted to give maximum power with minimum fuel.

Sure, increasing the compressor rotor military/maximum speed by turning the adjustment screw can give you more power. You're adding fuel to the fire and you'll get higher rotational speeds. The trouble is, you may exceed the EGT limits and reduce component life . . . it's not worth it.

Trimming may be needed after a fuel control change. Do the screwdriver bit, when you know your stuff, according to the poop in the maintenance pub.



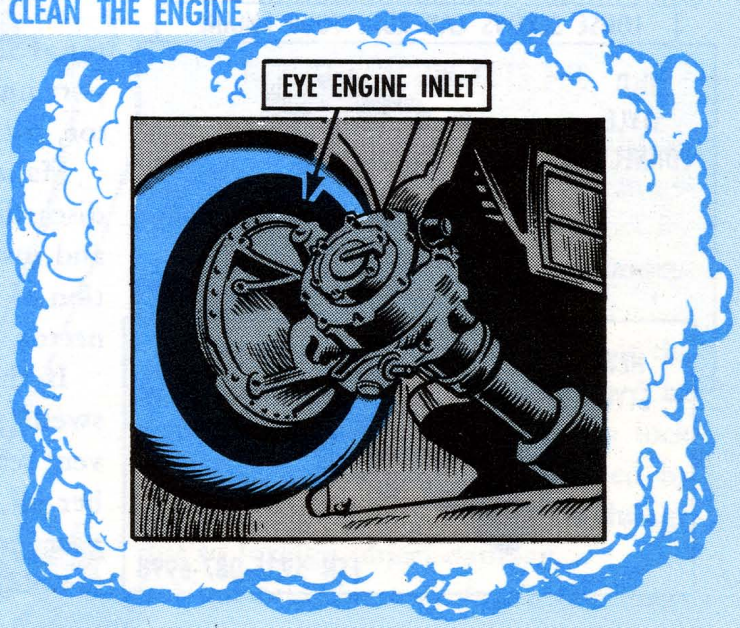
Eye the power availability chart to confirm a low-power writeup. The troubleshooting chart lists many causes such as — faulty rigging, compressor FOD, excessive bleed air leakage, clogged fuel manifold injectors and a shot fuel control. So track down the real cause of a power loss.

CLEAN THE ENGINE

A dirty engine is the most common cause of a gradual power loss. What with the dirt flying thick and fast, the inlet guide vanes and the compressor blades and stators get coated. The airflow is changed and performance is going, going — gone!

You want to eye the inlet guide vanes and compressor during the Daily inspection.

Know how to spot a dirty compressor right-off?



Lift the bleed band a smidgen and eye the blades. If you notice a brown, pebbly deposit like the grain on a pigskin, the compressor needs cleaning — NOW.

It may take a half-dozen cleanings to get the engine's innards clean but stick with it. The preferred cleaning bit, using dry cleaning solvent, P-D-680, is right in Chap 5 of TM 55-1520-227-20 (Aug 70).

HOW'S YOUR PAD?

When you lift troops and supplies to a fire base there's not much you can do about the dust kicked up in the boonies. Dirt passing into the compressor can actually round off the blades, in time. The compressor will lose efficiency and the engine won't put out.

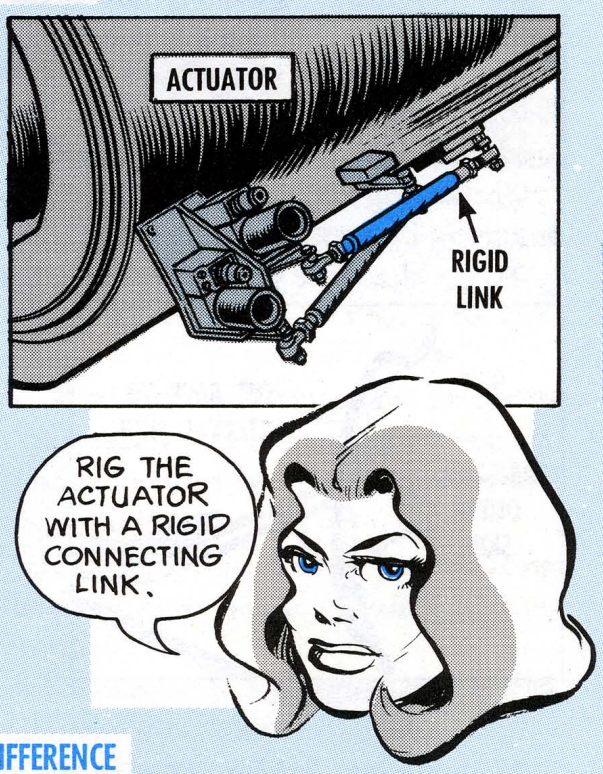
You can't always find a clean landing pad. But you can make sure you've got PSP or some other hard surface going for you at home plate, to cut down on the dust.

USE RIGID LINK

If you're lucky enough to get the new, improved N2 actuator, FSN 2995-420-5226, on your engine you'll find it stands up well to engine vibrations. It has an improved feed back potentiometer and new torque activated limit switches . . . no limit switch adjusting screws to mess with during rigging.

It's on S/N 69-17105 and later birds and will go on all models as the old actuators wear out.

One point, tho. When you get yours use **only** "rigid" connecting link, FSN 2995-014-4686. You can't rig the actuator correctly with the old link because it has a spring inside it. The details are in TM 55-1520-227-20 (Aug 70).



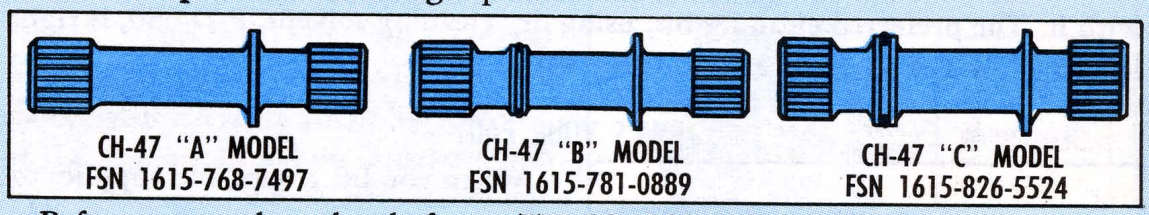
THERE'S A DIFFERENCE

No uptight mech would give his bird the shaft on purpose, right?

But that can happen with look-alike engine transmission quill shafts. Identify 'em by part or stock number before you try to put one in your bird.

PS MORE

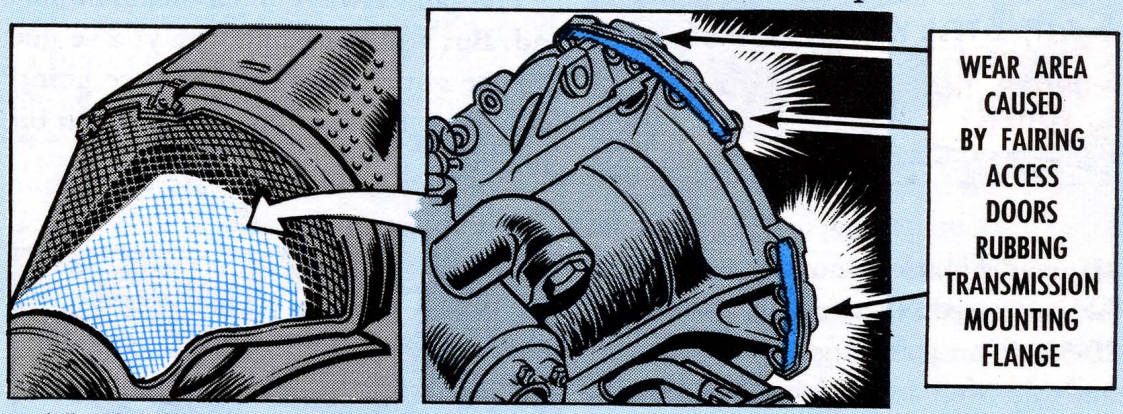
You can use quill shaft, FSN 1615-768-7497, in the A and B Models but the preferred shaft is FSN 1615-781-0889. It's silver plated and has an O-ring to hold lube in the spline area for longer part life.



Before you replace the shaft eye TM 55-1520-209-20P (Nov 70). It'll clue you, for example, that to get proper spline mating you can only use shaft, FSN 1615-826-5524, in the C Model with the T55-L-7C engine.

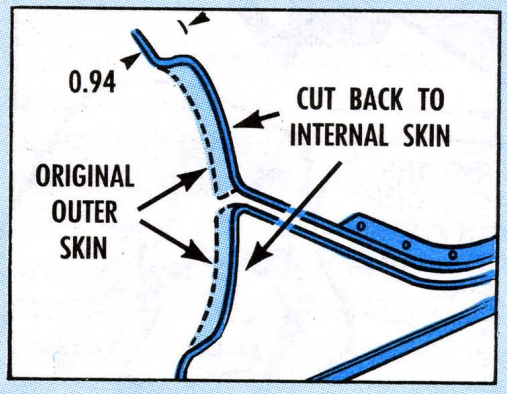
STOPS COWLING RUB

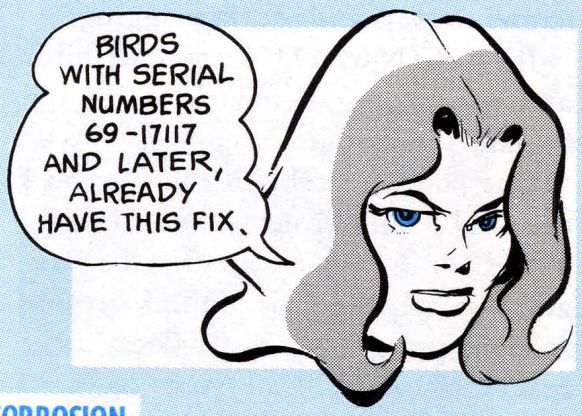
Some engine transmission assembly cases have to be reworked or even scrapped because of cowl chafing that you can prevent or, at least, stop.



The fairing access doors wear into the transmission mounting flange outside diameter in line with the output shaft . . . that's the rub!

To get clearance you have to trim the aft side of the access doors like so:

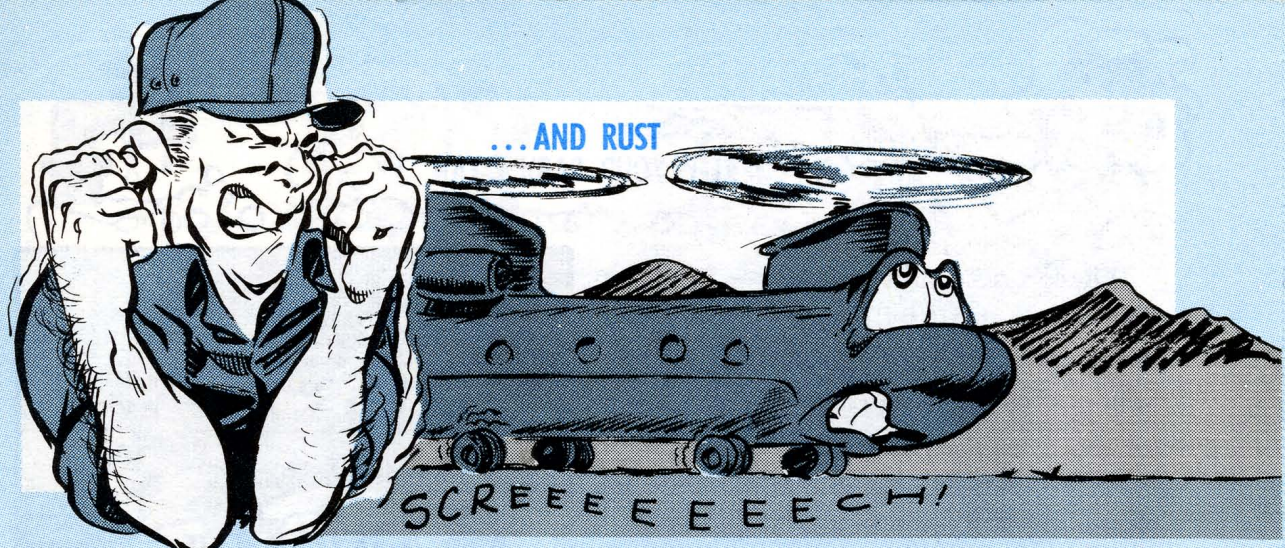




FIGHT CORROSION

If you're not fighting dust in the dry season it's water in the rainy season. Corrosion, especially on exposed magnesium parts, is the result.

Clean and touch-up-paint the rotor head reservoirs, for example. That'll head-off the villain.



You don't have to dump your bird in the South China Sea before repacking of landing gear wheel bearings is needed.

The water in any ol' rice paddy will wash the grease out of those bearings, nice as you please.

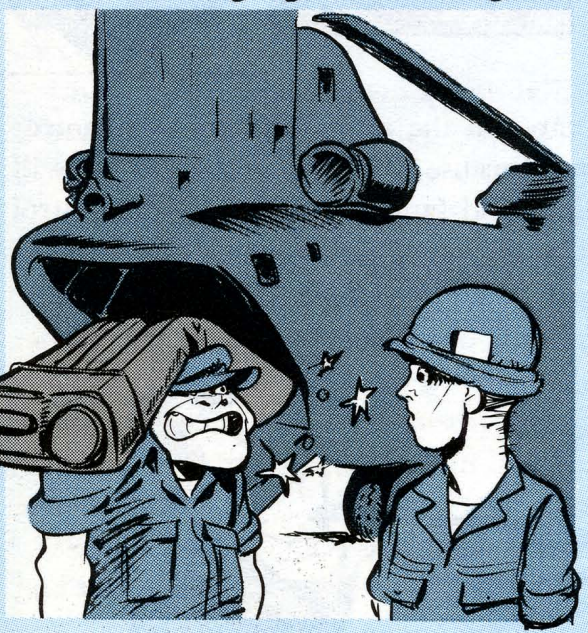
In a few days, rust will form and eat away at the bearings. If the next Periodic is not due right away you can't wait for the scheduled packing. Grease wet bearings NOW!

USE THE "GOODIE BOX"

When you carry grease cans, oil or even food ration cans on board, store 'em in the "goodie box." It's more than a seat for the left door gunner.

Tool boxes and other small tools and equipment should be stored in it.

Secure all larger gear such as 5-gal water cans and ammo boxes by lashing them to tie-down rings.



Never store supplies above your noggin along the cabin, either. The bungee cord will hold 'em at first but during rough weather they'll turn into missiles! !

Would you believe one aft transmission housing had to be scrapped because it had can rings worn deep into the soft magnesium?

It's true! Some troops were heating their rations on it. 'Tain't recommended! !

There're other magnesium panels that take a beating and shouldn't.

One favorite storage place is the magnesium panel forward of station 482 (at the ramp) along the floor next to the left and right sides.

Oil cans wear rings into the panel and during IROAN the panel has to be changed. That's no way to treat a lady.

P.S MORE

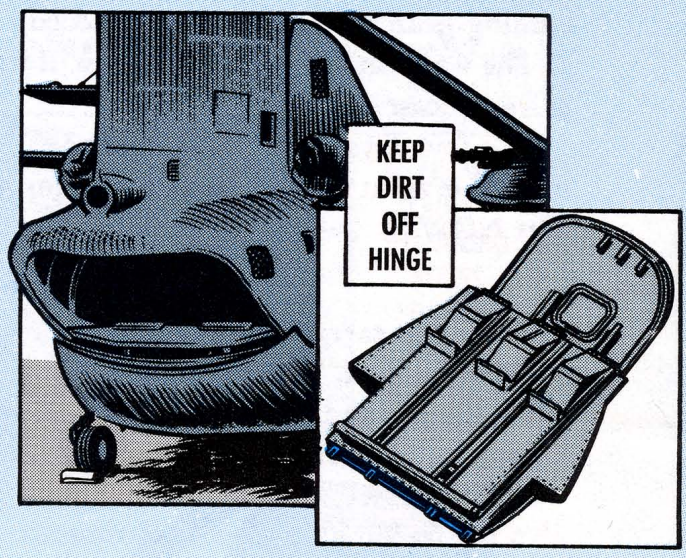
There's no doubt about it—keeping The Hook clean will save maintenance sweat and downtime. You'll help prevent corrosion from forming, cut down on part replacement and sheet metal repair. It's a MUST before storage or shipment.

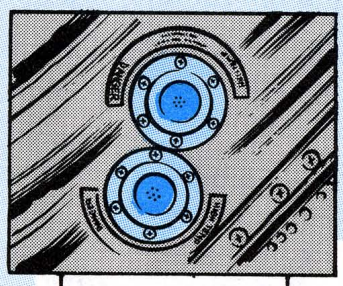
Take the piano hinge at the ramp attaching points.

Dirt builds up and puts pressure on the hinge. After awhile, the hinge will fail.

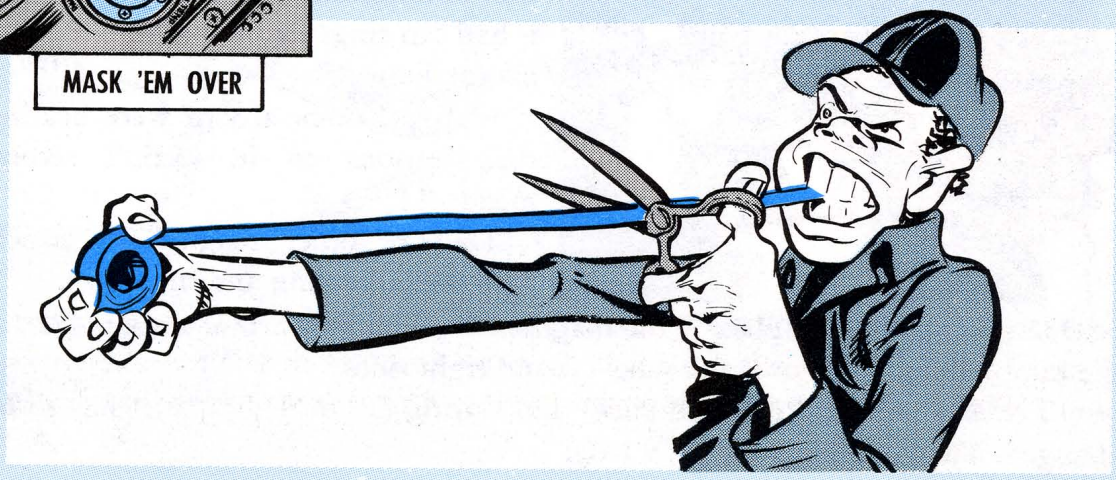
'Course the best way to get the dirt out of that trap is with a high-pressure hose, if you're lucky enough to have a wash rack with a pressurized water supply. If not, use your imaginuity, man!

You'll find the fuselage cleaning poop in Chap 1 of the maintenance pub, backed up by TM 55-1500-204-25/1 (Apr 70) on general maintenance.

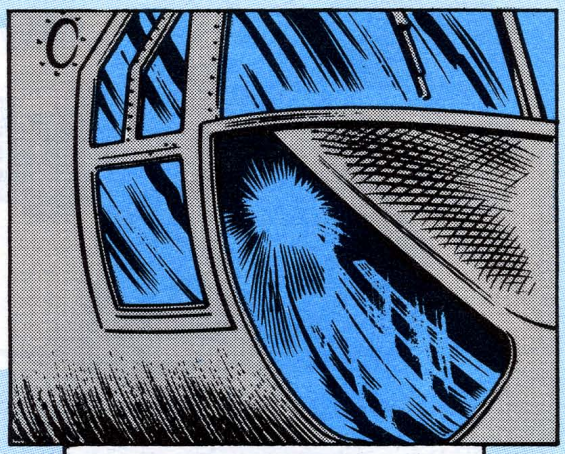




Use masking tape on the pitot tube and instrument static port openings because any water getting in 'em will give bogus readings and faulty automatic flight control operation. Make sure you REMOVE the tape after a wash job.



'Course you also want to keep cleaning solution off transparent plastic, if possible. Rinse off any spills before the solution dries . . . protects the plastic from haze cracks.

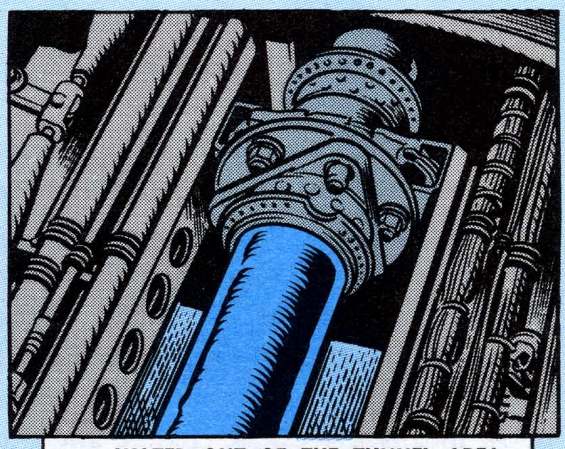


KEEP CLEANING SOLUTION OFF THE TRANSPARENT PLASTIC...

Use water sparingly when washing down the tunnel area. A numbah-one mechanic will clue you that water can get inside the hollow sync shafts and give your bird nasty vibrations.

For that reason it's a no-no to leave the tunnel covers open when you take a work break.

If the power train on your baby acts up after a wash job, or a heavy rain, check the shafts for water.



...WATER OUT OF THE TUNNEL AREA

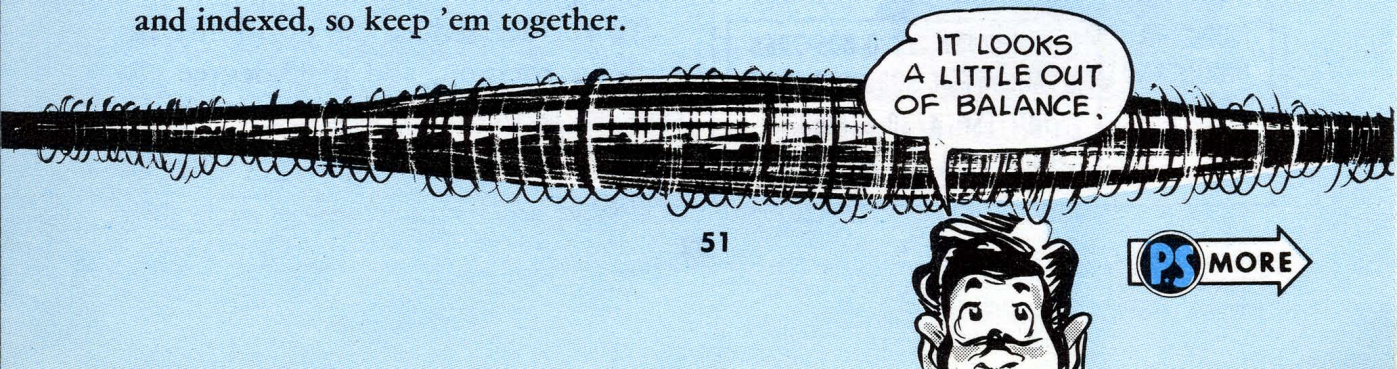
Chap 7 in the maintenance pub tells how to get rid of the water using an ordinary air and water syringe with a 5-foot long, ¼-inch inside diameter hose. You don't have to remove the shafts.

In addition to water in a shaft, here're some common causes of excessive vibration that you should consider.

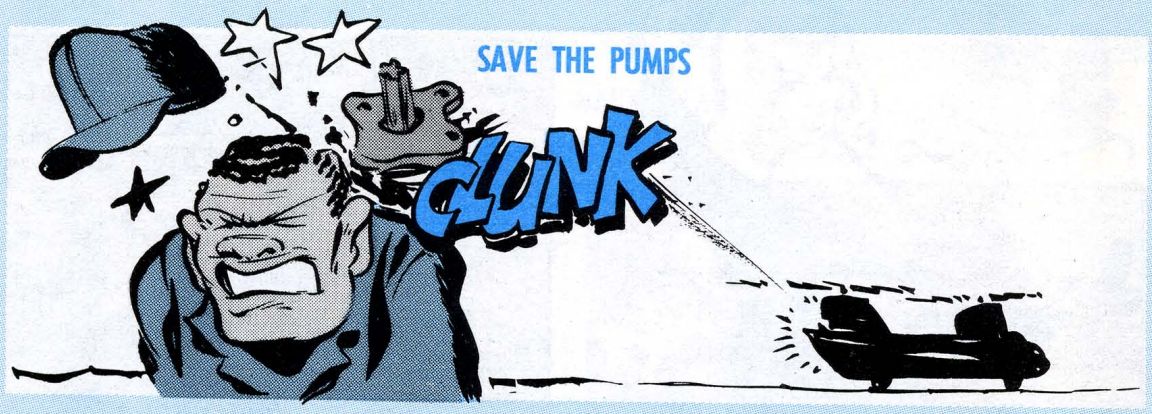
Missing or incorrect hardware, missing balance weights, broken isolation mounts and hangers, damage to shafting or adapters, foreign objects, broken or cracked coupling plates, dry or worn adapter splines.

For example, eye the forward sync shaft adapter, FSN 1615-937-7666—the wrong size bolt has been used in it. You want bolt, FSN 5306-027-3182 . . . 2.04 inches long.

Be sure you've got the right installation. The shaft assemblies are balanced and indexed, so keep 'em together.



PS MORE



If you have to change the utility hydraulic pump, FSN 1650-016-2886, that's mounted on the rear of the aft rotary-wing drive transmission, watch your step or you may have to do it all over again.

The pump has a compensator that maintains about 3000 PSI output pressure. During engine starts the pressure increases to about 4000 PSI.

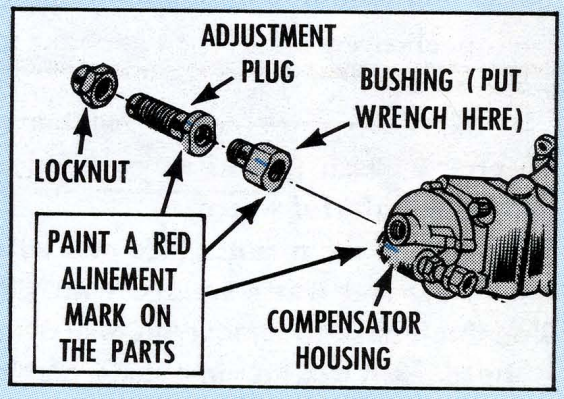
The compensator is made in 2 parts. If one part is rotated and the other one remains stationary, when you disconnect and reconnect flexible hose, P/N 114H3150-109, the pump output pressure changes.

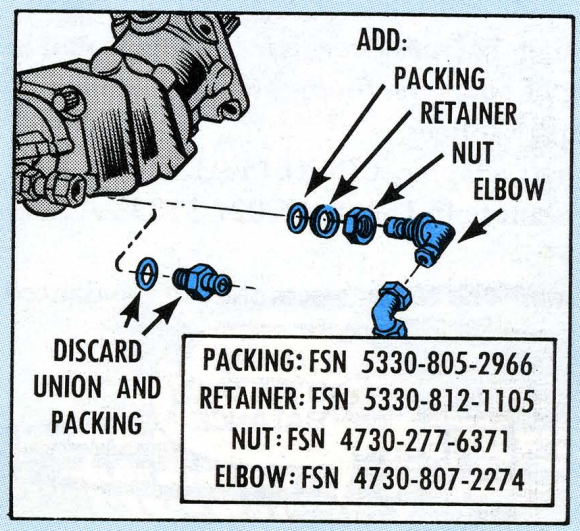
It's not ususual for the pressure to go from 3000 PSI to 6000 PSI . . . leads to cracked cases, seized shafts and even flying pumps! !

The dual range compensator housing should have a red alinement mark painted across the housing, bushing and adjustment plug. Of course a broken mark means a pressure change and the pump has to be changed.

If your pump doesn't have the mark, make with a paint brush.

The same marking deal goes when you put on a new pump.





To keep the alinement mark unbroken always put a wrench on the compensator bushing as you disconnect or reconnect the flexible hose.

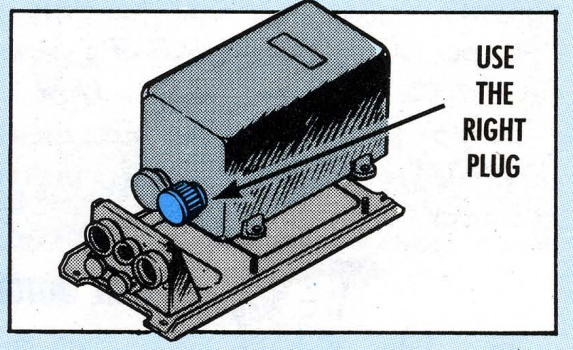
When you put a new pump on your workhorse discard the bushing union and packing, making sure you hold the bushing with a wrench.

To further reduce the possibility of bushing rotation, add a 90-degree elbow on the pump. Of course you'll have to switch the elbow on each pump change.

GENERATOR ADAPTER PLUG

If you have power distribution panel, FSN 1680-181-4303, in your C Model, you can use either the brush-type or the new brushless-type AC generators.

You won't get to first base with the change, tho, unless you have the right adapter plug on the control panel. They stack up like so:



Brush Generator, FSN 6115-789-1536	Use Plug, FSN 1680-117-9446
Brushless Generator, FSN 6115-111-6828	Use Plug, FSN 5935-220-5330

NO IMPROVEMENT HERE

Take the generator shrouds, FSN 1615-955-9575, FSN 1615-955-9576. Some mechs take those drip shields off to gain access to other components and don't put 'em back again.

So, hydraulic and other fluids drip into the generator vents and seep into the drive end bearing. Before long fluid thins the bearing grease and the bearing has had it.

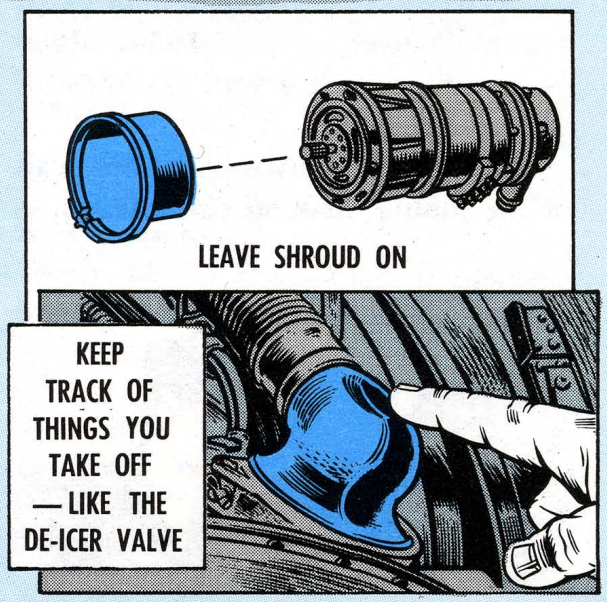
'Tain't any way to run an airline.

Put the shrouds back.

Sure, there're times when the maintenance officer will give you the green light to leave a part off. The engine de-icer valve for your SEA-based bird is one example.

The MO needs to be "in the know", tho, for a couple of reasons.

He needs to know where the de-icer valve is stored and that the engine records show it was removed and put back . . . mighty important to make sure a **complete** engine (with paperwork) is shipped back for overhaul.



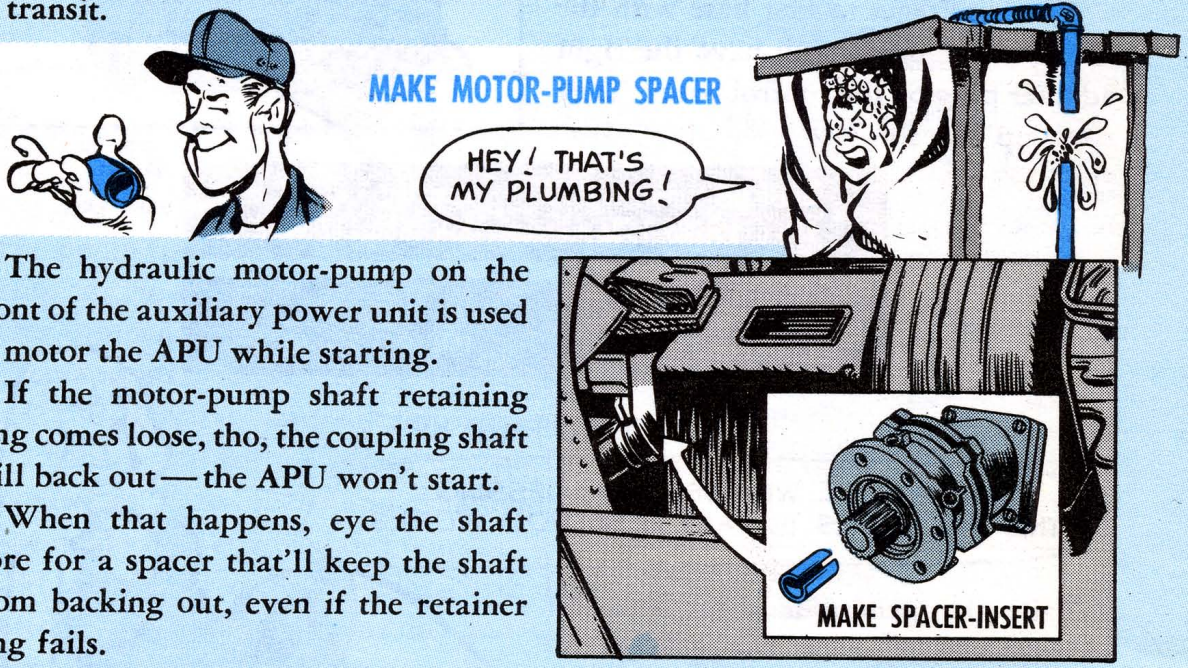
P.S MORE

Fact is, one depot is short de-icer valves right now. On the C Model, for example, they don't come cheap. That little jewel costs 700 clams.

If, per chance, you're part of a crew shipping T55's to overhaul, latch onto a copy of TM 55-1500-204-25/1 (Apr 70) on general practices.

Para 5-181 tells how to protect the engine from internal and external moisture in a sealed shipping container . . . prevents rust and corrosion from going to work in transit.

MAKE MOTOR-PUMP SPACER



The hydraulic motor-pump on the front of the auxiliary power unit is used to motor the APU while starting.

If the motor-pump shaft retaining ring comes loose, tho, the coupling shaft will back out — the APU won't start.

When that happens, eye the shaft bore for a spacer that'll keep the shaft from backing out, even if the retainer ring fails.

No spacer? Then make one up, soonest!

Latch onto a 1.8-inch length of 7/8- or 1-inch diameter stainless steel or aluminum tubing with a wall thickness of about 0.050-inch.

Cut a slot lengthwise thru one wall of the tubing, making sure the slot is wide enough so that when you insert the spacer, some slot gap is left.

Put the spacer in the bore of the coupling shaft, making sure that the spacer bottoms against the beveled shoulder in the bore.

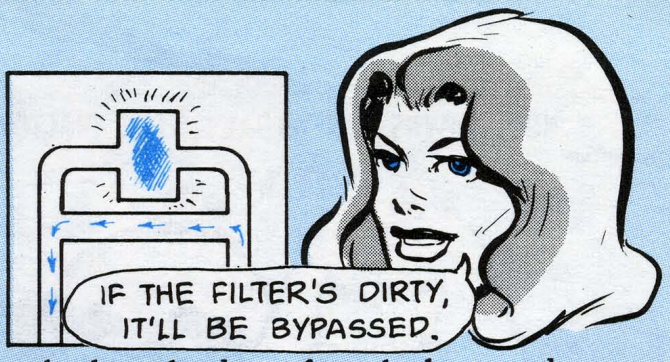
That'll keep the motor-pump humming.

WANTED — A CLEAN SYSTEM

When a transmission is taken out of your bird because of suspected internal failure, your field support removes and flushes the system lines and hoses with solvent, P-D-680.

It stands to reason the oil flow is going to circulate metal chips beyond the transmission and contaminate the whole system.

You'll also get a dirty system when an oil filter is clogged with metal contamination and is by-passing oil around the filter elements. Replace the oil cooler if the filter shows signs of being by-passed.



For example, one transmission wound up back at the depot for a look-see and was found to be OK. The oil in it, tho, was not OK. That's no way to keep a bird in the blue.

PARTS OK

When you draw an overhauled part from supply and the repair done exceeds the limits allowed in your maintenance pub, hold one!

Depot and factory work requirements may differ from those in the field because more sophisticated rebuild equipment is used. The repair is approved on the spot by engineer-types.

So, never ship a suspect part back without first checking with your maintenance officer and tech rep.

Keep 'em flying, knucklebusters!

YOU DIDN'T GET PS?

(AND OTHER PUBLICATIONS, TOO?)

There may be a good reason that you've **not** been getting **PS Magazine** (and other pubs) lately.

A lot of units have moved, unit designations have changed, commands have been reorganized, TOE's and equipment have changed.

When such happens, your unit has to notify the AG Publications Centers of any change in address, unit designation, publications needed and the like. If not, you won't get your pubs via pin-point.

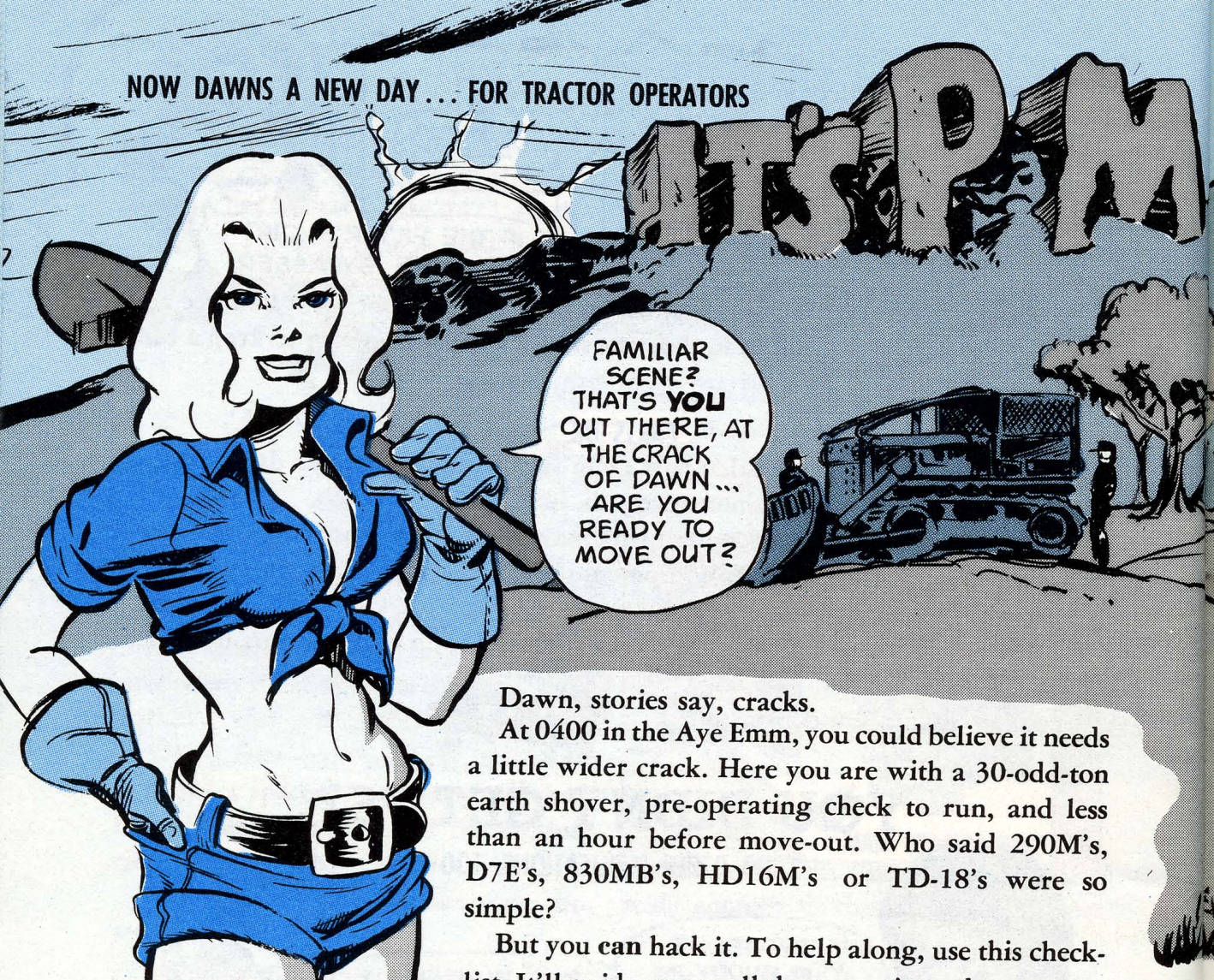
So, like toot-sweet, notify —

USA AG Publications Center
2800 Eastern Blvd
Baltimore, MD 21220

on PS, indexes and admin pubs.

USA AG Publications Center
1655 Woodson Rd
St. Louis, MO 63114

on tech and supply pubs.



Dawn, stories say, cracks.

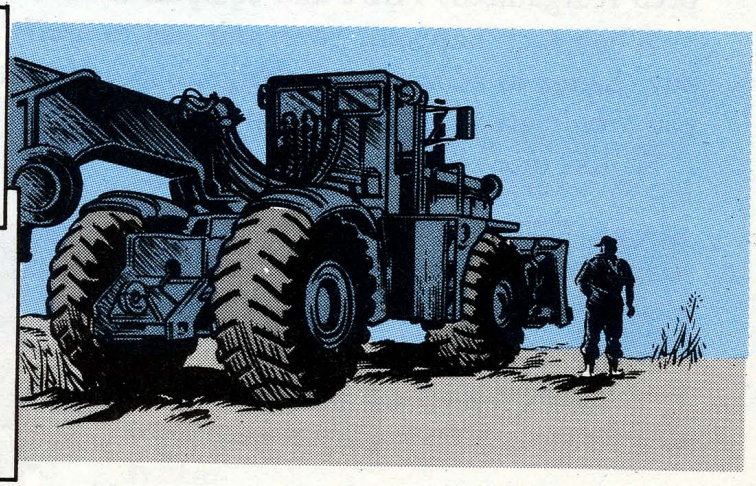
At 0400 in the Aye Emm, you could believe it needs a little wider crack. Here you are with a 30-odd-ton earth shover, pre-operating check to run, and less than an hour before move-out. Who said 290M's, D7E's, 830MB's, HD16M's or TD-18's were so simple?

But you can hack it. To help along, use this checklist. It'll guide you to all the tractor's tender spots regardless of its make or model; even commercial rigs. Markup anything you find wrong and can't fix on your DA Form 2404.

FIRST THINGS FIRST

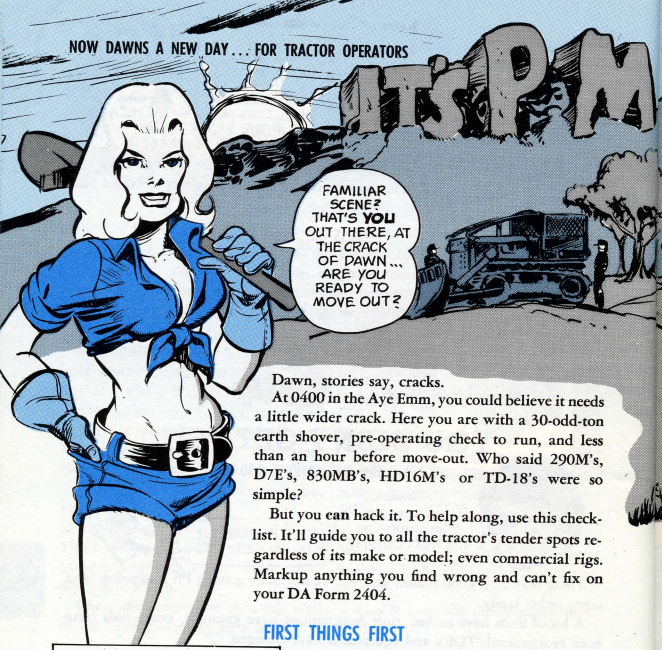
OVERALL — Size up your growler like a cowhand would a horse. Look hard at main items—blades, trunnions, teeth, tracks, rollers, sprockets, tires, etc.

UNDERSIDE—Only once a day you have this chance. Strain your eyeballs for puddles and stains from oil, fuel or hydraulic leaks. Clear your sinuses and sniff . . . sniff . . . sniff.



NOW DAWNS A NEW DAY... FOR TRACTOR OPERATORS

IT'S PM ALL THE WAY



Dawn, stories say, cracks.

At 0400 in the Aye Emm, you could believe it needs a little wider crack. Here you are with a 30-odd-ton earth shover, pre-operating check to run, and less than an hour before move-out. Who said 290M's, D7E's, 830MB's, HD16M's or TD-18's were so simple?

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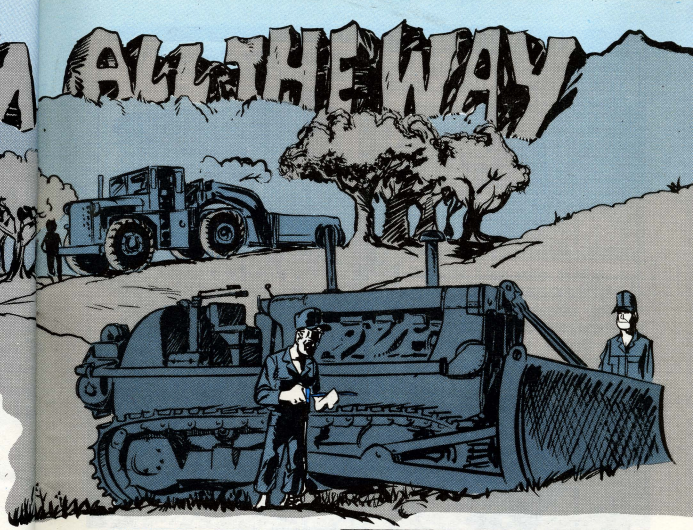
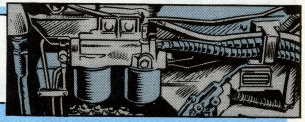
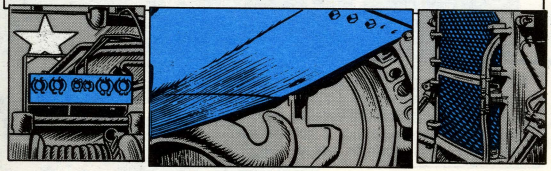


INSIDE-ENGINE COMPARTMENT—Look for blots, drips, spray spots, loose drive belts, breaks. A flashlight is a big help.

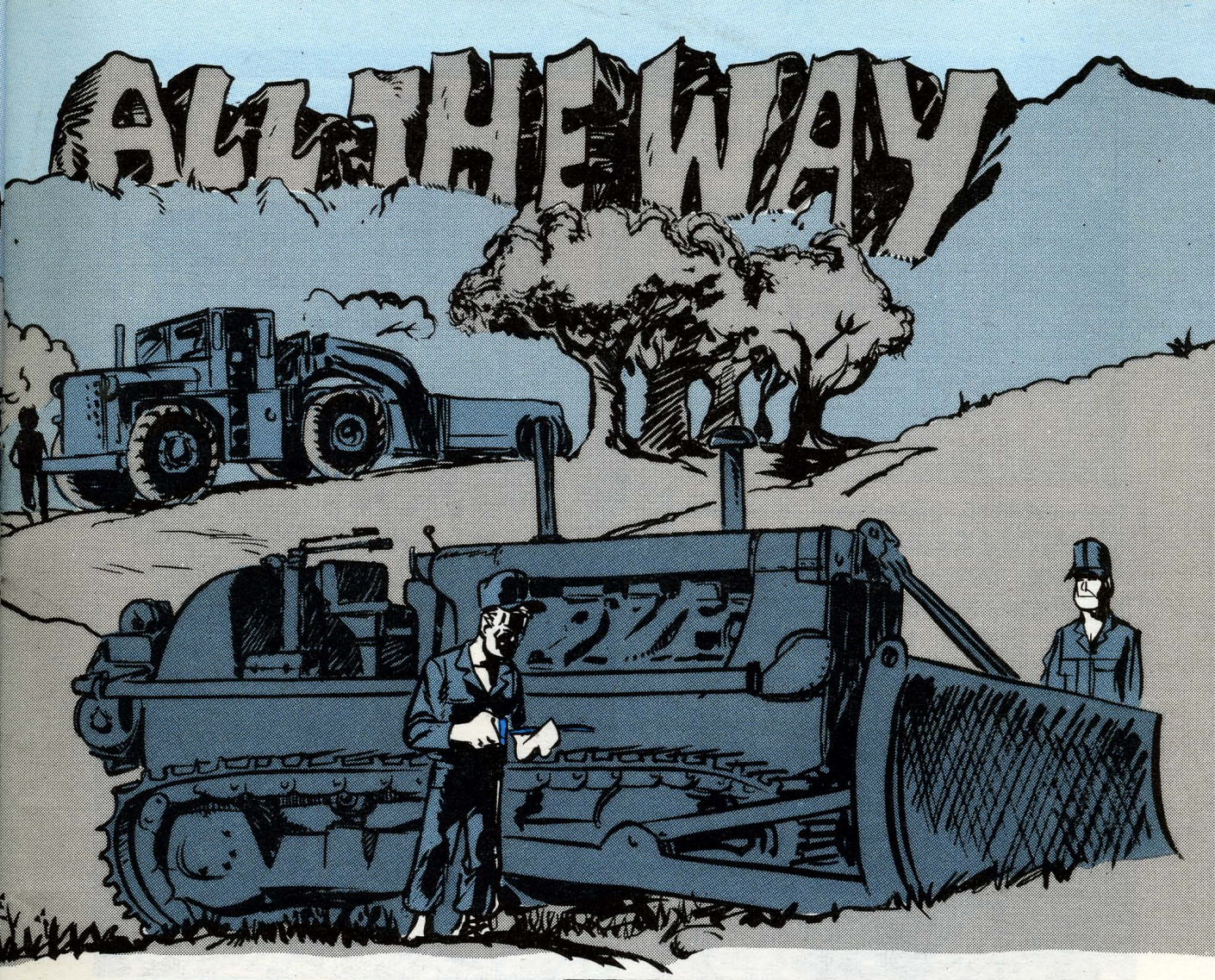


CLOSE-UPS—Scan manifold joints, looking for burn stains or carbon. Check hoses. Eye grilles, belly pans, radiators and vents for trash, mud, leaves, brush, rocks.



PS MORE

ALL THE WAY



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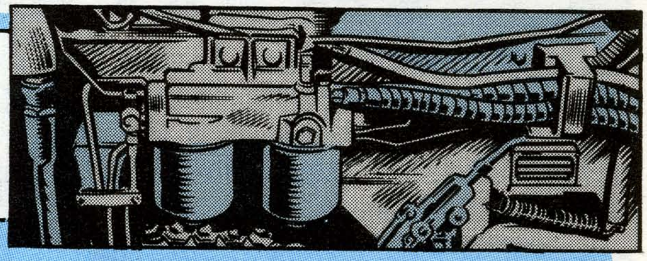

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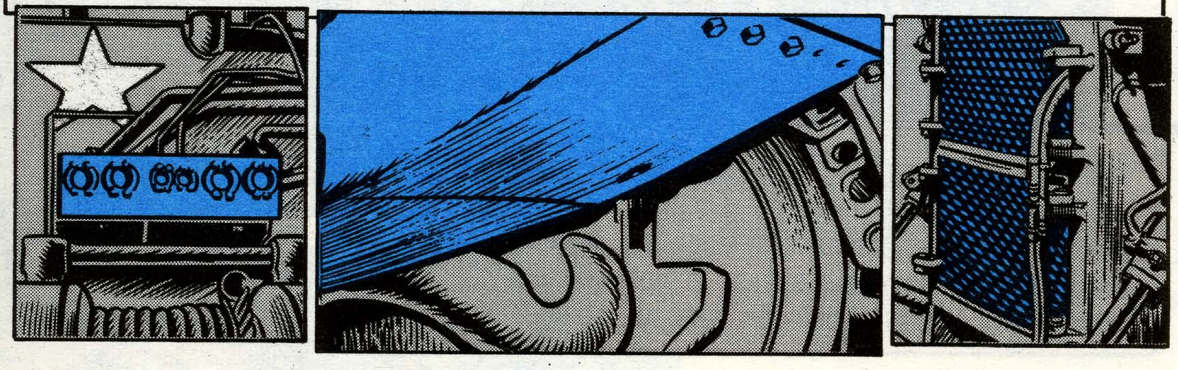

PS MORE

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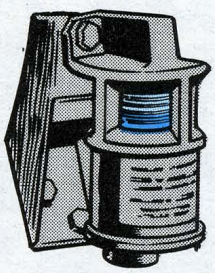
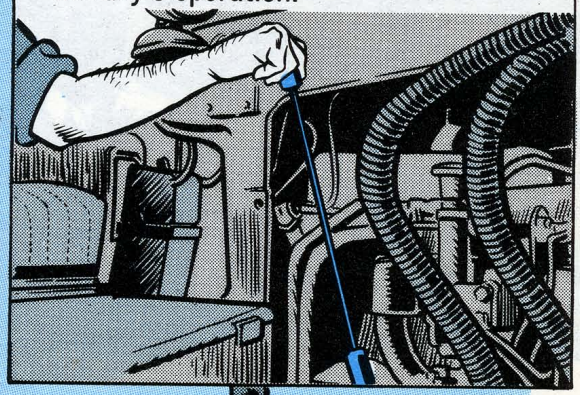
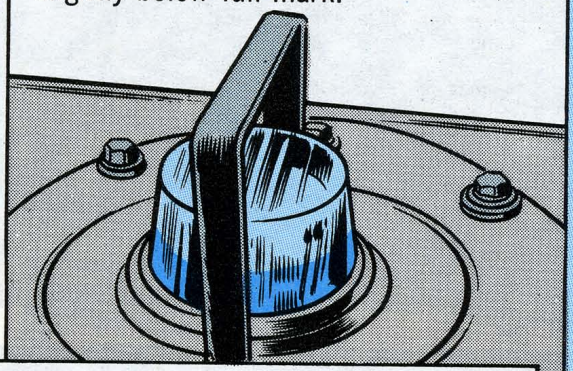


EXHAUST STACK—Rain cap in place, hinge good, seat firm.

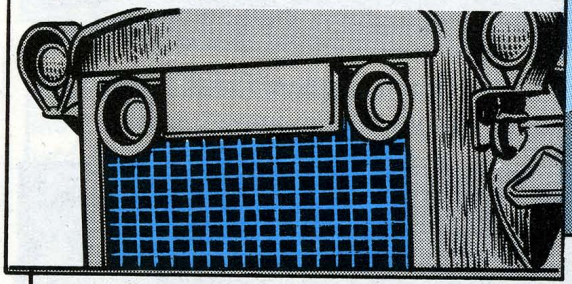
ENGINE OIL—Check with engine running or off as TM or dipstick says for your particular tractor. Most oil-cooler-equipped stuff is read on a dipstick, engine off. A quart low is too much to start the day's operation.



HYDRAULIC CONTROL OIL—Check sight gauge if there's one, with engine off and all equipment lowered. Otherwise, read the dipstick. Level should be at or slightly below full mark.



RADIATOR—Add coolant (see TB 750-751, Jan 71). Avoid mineral-loaded and chemically-softened water—these clog radiators fast. Don't over fill—leave space for expansion.



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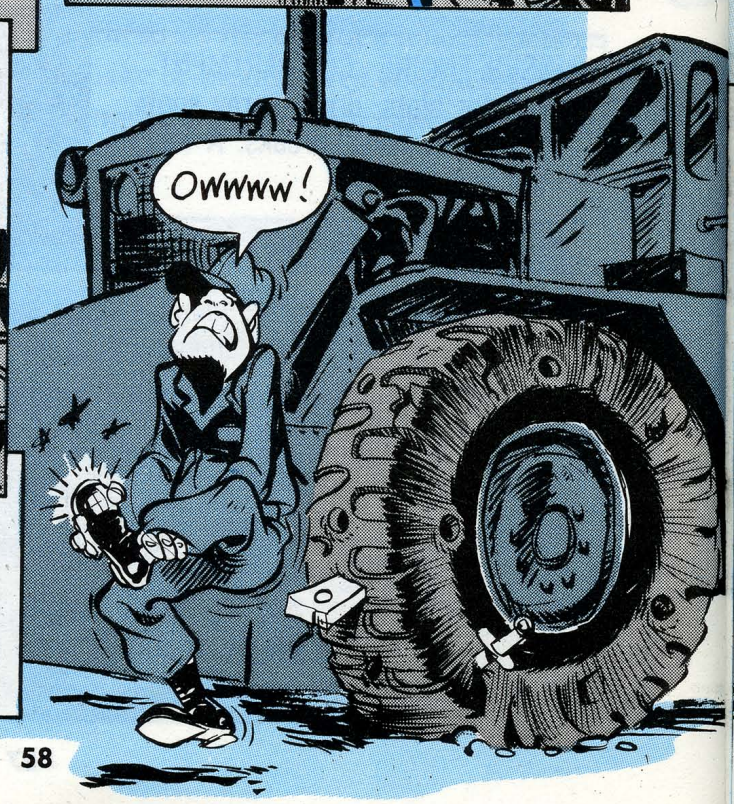

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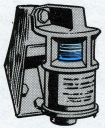

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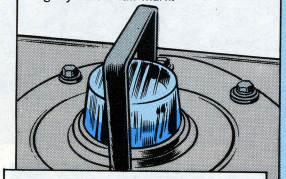

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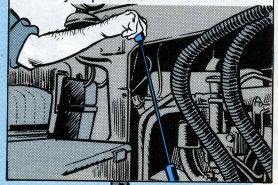

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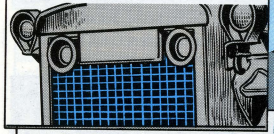

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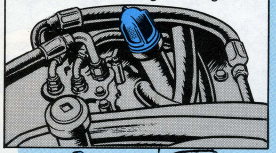
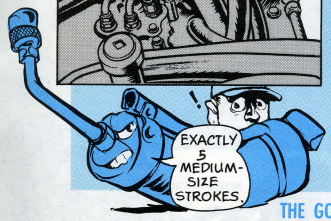
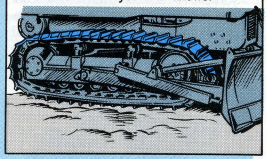




TRACK ADJUSTMENT—If you have 'em—Eyeball every morning, the sag should be no more than your TM allows.



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THE GO-DRILL

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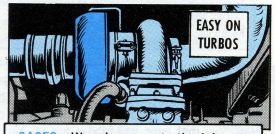

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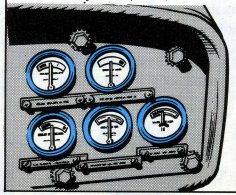

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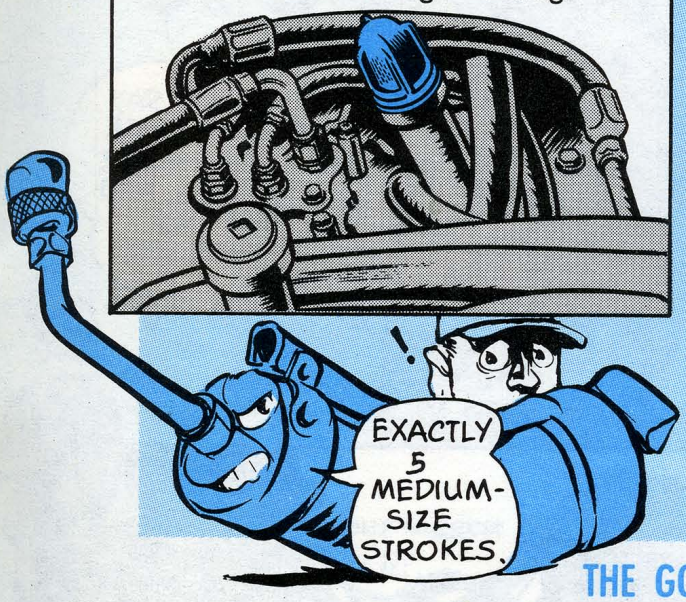

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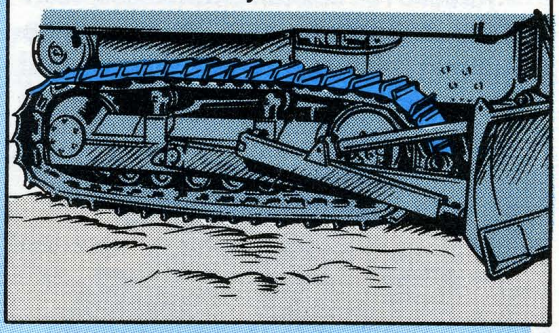

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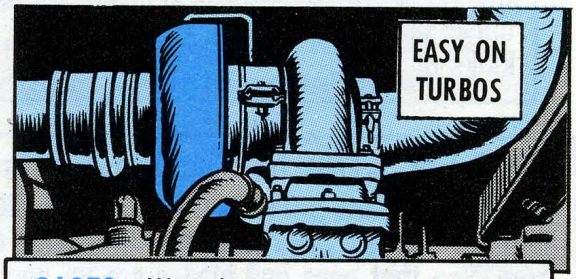

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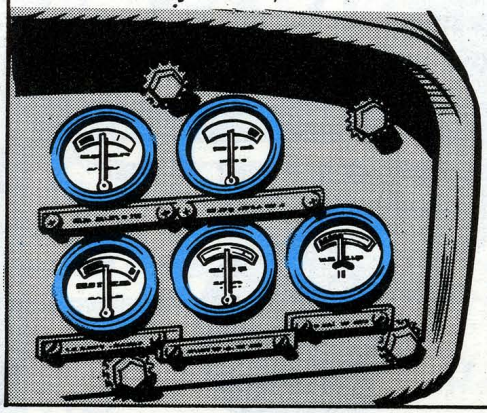

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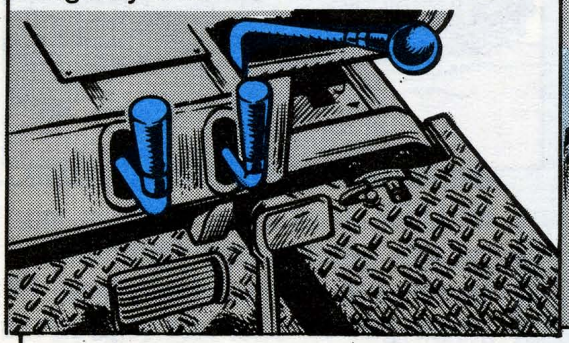

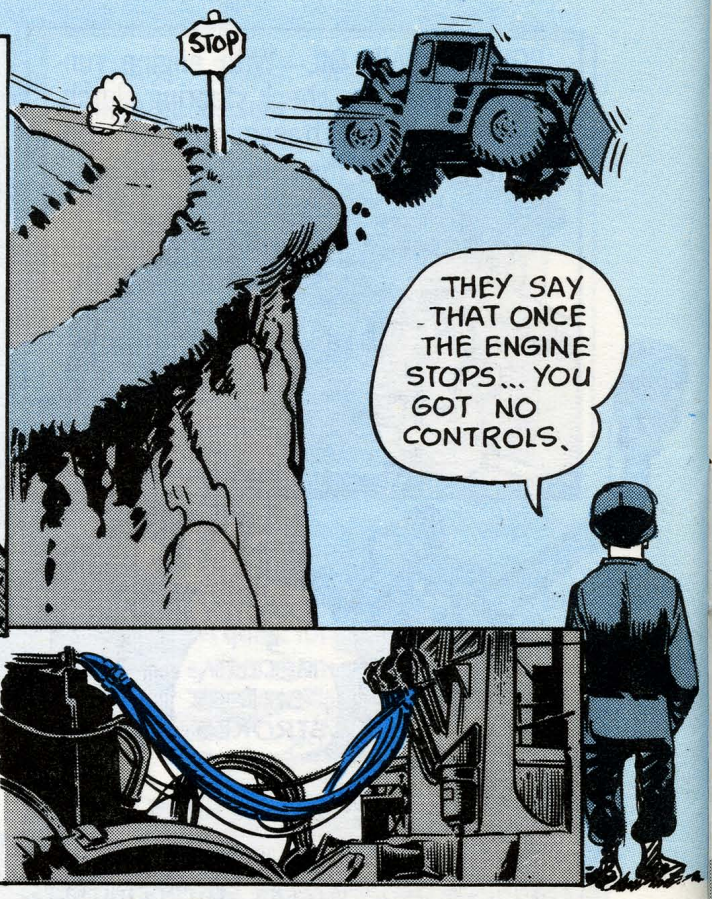

In between—if you pull a scraper, be sure of your hydraulic manifold, the hoses between your tractor and the pan, the hoses on the pan, and your tree . . . universal coupler, that is. No leaks, kinks or loose.

ALL CLEAR — Look front-behind-and under for anything that could cause trouble. In cold country, be sure you're not iced to the ground — that is disastrous for tracks, sprockets and main drives. The real secret is parking on rock, logs or high ground so's to be freeze-free. See that pans and blades are up enough to clear possible ground snags, disengage brakes, and in lowest gear. Go s-l-o-w-l-y.

On site, move at a speed that's right for your terrain. Use enough RPM to get away from torque converter overheat—running at too low an RPM isn't any kindness to your engine: it makes the powerplant lug and stagger and carbon up, besides heating up. Find a gear setting for all 3 necessities, best RPM, power to move your load, and the number of miles per hour you need. It adds up to....

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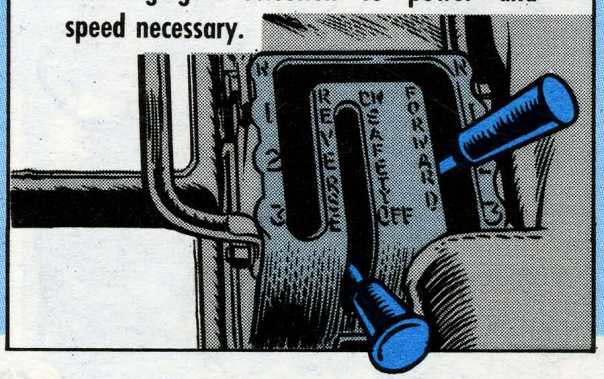

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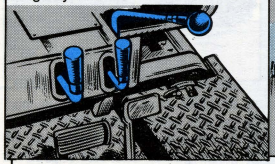

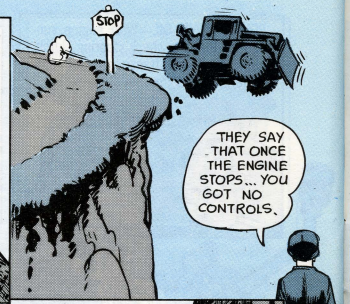

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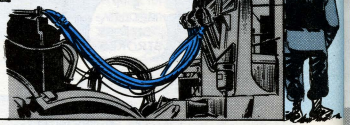

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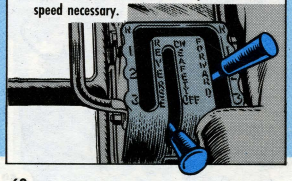


DRIVE TO STAY ALIVE

Your multi-ton prowler has either (1) all-hydraulic controls or (2) air-over-hydraulic. Manual control has little or no effect on anything much more than opening and closing the windshield.

That means your engine has to be running, or you're helpless.

You can't steer without power.

You can't stop without power—or else the whole thing freezes.

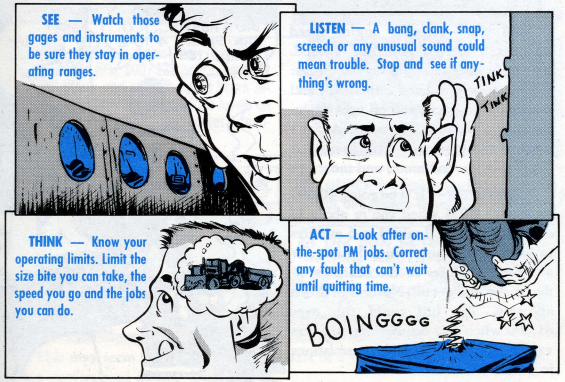
Your dump controls and blades and pans won't work without power.

ROLLING WITH YOU

Now comes your biggest PM job. You might overlook it because it sounds so simple. But this is it:

The **way** you run, the **way** you load, the **way** you handle does more to put your equipment in the boneyard—or keep it **off** deadline—than anything else . . . weather, Charlie, rocks, bumps, trees, **anything.** To that magnificent diesel work horse of yours, the most important guy in all the world is **you.**

There are 4 things that will help you.



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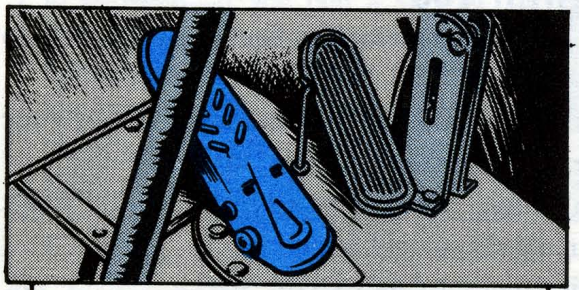
PS MORE

FROM THE TOP

You're either a friend or enemy to your tractor by your habits. Take—

FIELD ADJUSTMENTS—One very costly habit is tinkering. Out-in-the-field changes on settings or adjustments should be emergency matters only. Such items as selector-valve changes and tension resets are no sandhill affairs. Worse, out-of-the-shop guesswork can turn a small job into a big one, and usually lets dirt and grime inside delicate parts. Make only the changes you have know-how and tools for.



USE YOUR BRAKES

RIGHT RPM—Keeping engine speed up doesn't mean highballing around. The right gear selection does 2 things: it gives power to handle the load, and it keeps engine heat and oil heat down. Steady operation is the word. A day's work isn't done with one jump—it takes another, and more, and more . . .

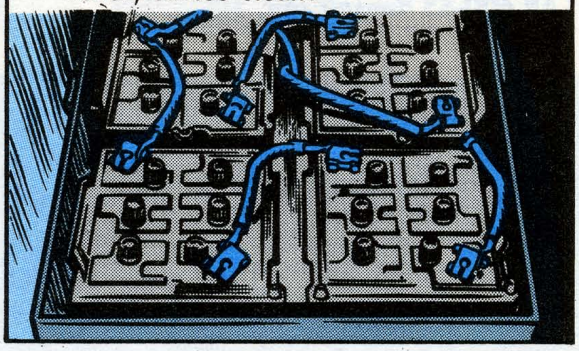
TURBOCHARGER—It'll be going 40,000 to 75,000 RPM when you're about to cut the engine. It'll take 4 to 6 minutes to lose all that momentum. So idle for at least 4 minutes so the bearings on that turbo will get oil. Never shut down abruptly. The bill could run over $1,000 when you do. Besides, idle lets valves and manifolds and transmissions lose excess heat.

BRAKES—All wheeled tractors must use brakes, never engine drag alone to control speed on a down-hill grade. Forcing an engine beyond its maximum governor RPM can blow an engine.

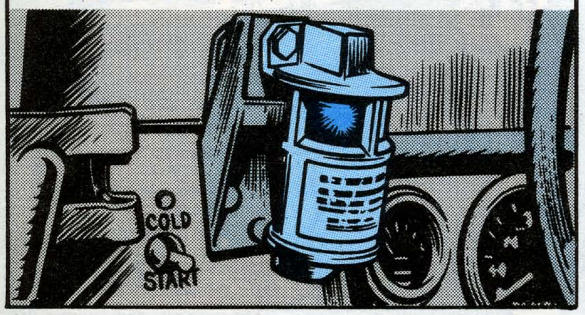
END OF THE SHIFT

Before you leave, make your after operation PM checks.

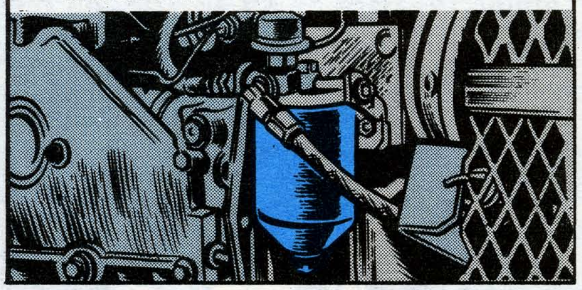
☑ BATTERY—Electrolyte covering plates? Cover, cables clean?



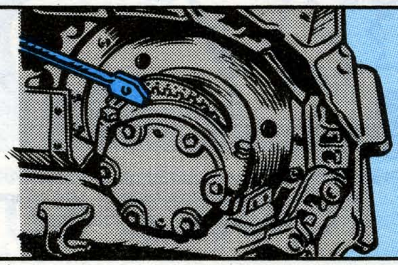
☑ AIR CLEANER—Indicator still green?



☑ FUEL FILTER—Any leaks? Drain condensate every shift. Clean inside and out every 50 hours with incoming fuel line closed off.



☑ FINAL DRIVES—Adjust new Cat D7E's at end of first 100/125 hours, again at 250 hours, and at each 1,000 hours afterward. Check planetary drive levels on wheeled rigs every time you get a reading on engine oil.



☑ WASH—Hose down all dirt packed areas.

☑ LUBRICATE—Grease any lube point that got dirt packed during the day's work.

This may seem like a lot but it's all part of a tractor operator's day . . . that is, a professional tractor operator.

PS END

EXAMINER SIGNS

Dear Half-Mast,

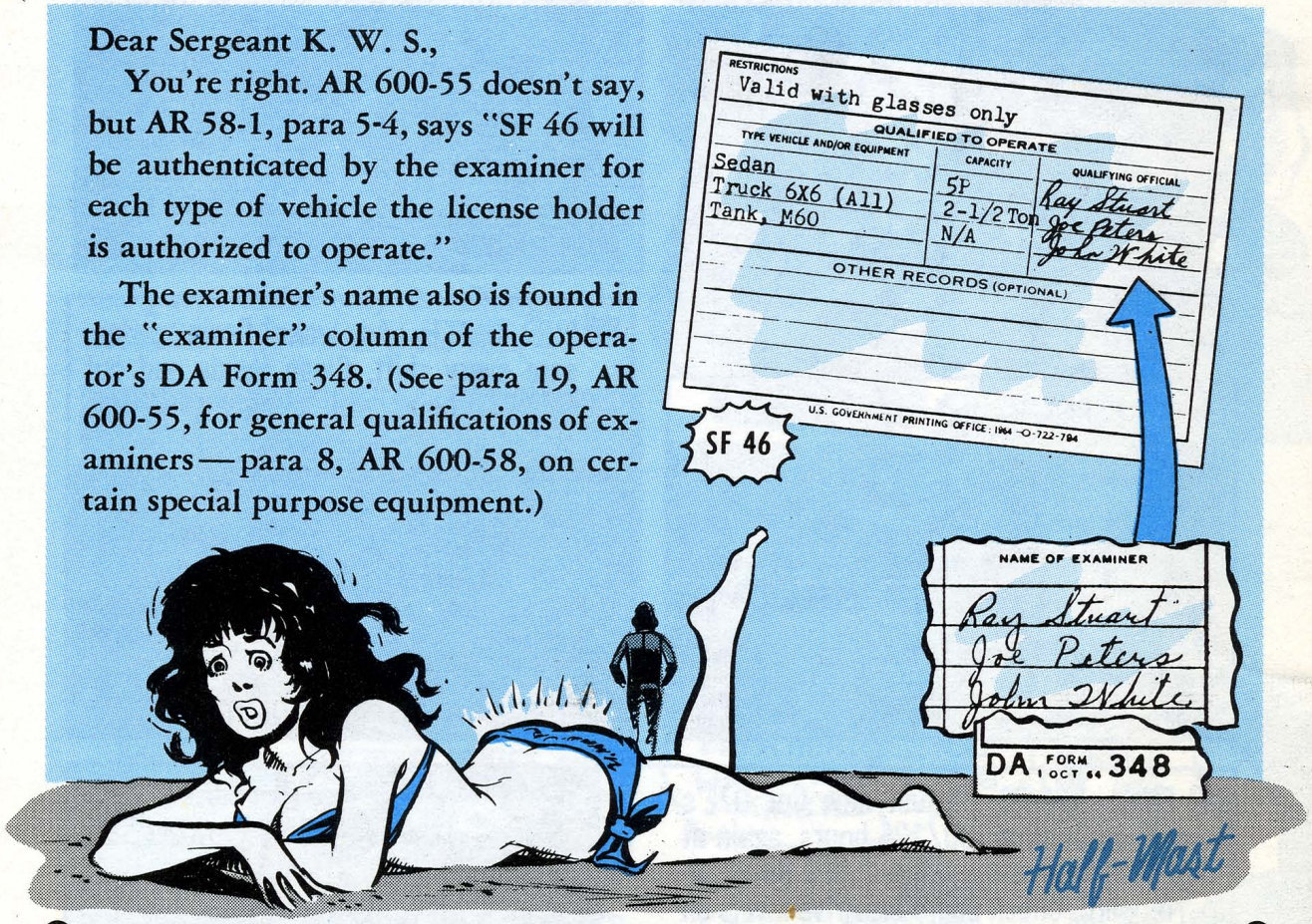
Who signs as "qualifying official" on the backside of the operator's permit, SF 46? AR 600-55 doesn't say.

SSG K. W. S.

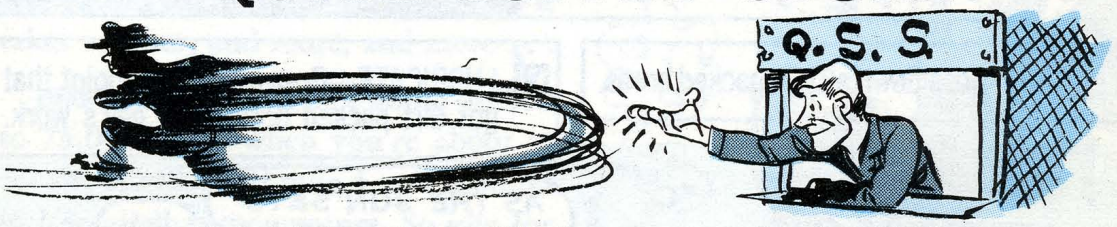
Dear Sergeant K. W. S.,

You're right. AR 600-55 doesn't say, but AR 58-1, para 5-4, says "SF 46 will be authenticated by the examiner for each type of vehicle the license holder is authorized to operate."

The examiner's name also is found in the "examiner" column of the operator's DA Form 348. (See para 19, AR 600-55, for general qualifications of examiners—para 8, AR 600-58, on certain special purpose equipment.)



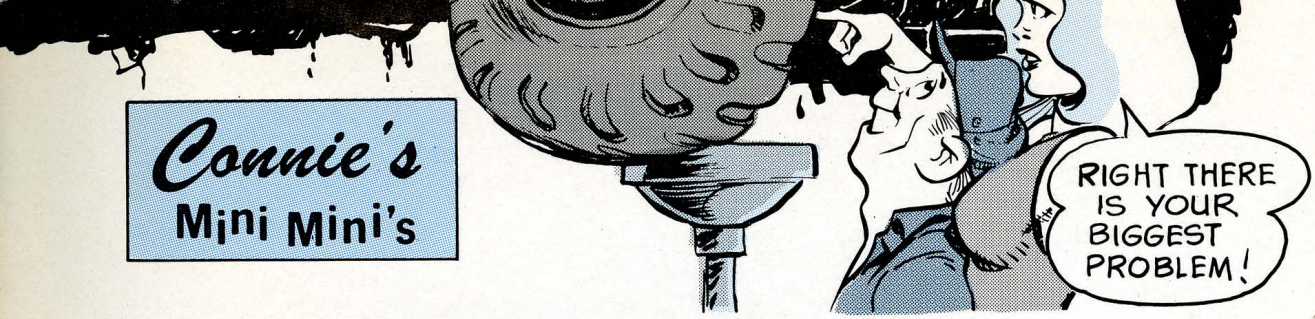
"QUICK SUPPLY STORE"



Real sharp! "Quick Supply Store" is the new name for the old Country Store—the over-the-counter supply operation at DS units for low-cost parts and common hardware. The name was picked by the Army's Deputy Chief of Staff for Logistics.

The winning name was suggested by LTC William Sapp, Jr. of the CSMS, Illinois National Guard. Runner-up was "The Quick Shop" contributed by MSG Jacqueline R. Spector of the 25th Surgical Hospital, St. Louis.

Will DS units have signs like: Q S S?



Connie's Mini Mini's

Semitrailer Tailgates

The right numbers for M118A1 semitrailer tailgates are: Right rear, FSN 2510-074-2762; Left Rear, 2510-074-2756.

Trainer Records

If you've got aircraft instrument flight trainers or flight simulators to maintain, get your mitts on TB 55-6900-200-15 (Feb 71). It changes the records required. DA 2408-1 daily and monthly are added, DA 2408-13 and -17 are dropped for these low-flying birds.

Commercial Auto EIR

Got commercial automotive items in your equipment bag? Then make sure you're on pinpoint (DA Form 12-38) distribution for the new EIR and Maintenance Digest for this type equipment. It's the TB 750-982 series, with 1-time-distribution, no resupply.

Keep 'Em Rolling!

Worn tires removed from aircraft can now be retreaded when they pass inspection per TB 55-2620-202-15 (Nov 70). CONUS and overseas units ship to — Red River Army Depot, ATTN: Aircraft Tire Retread Program, AMXRR-M, Texarkana, Texas 75502.

No F For Test

There's no symbol F for an aircraft test flight as indicated in para 4-11c(2)-(d)2 of TM 38-750. Use only mission symbols listed in AR 95-1 (and on DA Form 2408) when you make mission symbol entries on DA Form 2408-12. S is the test flight symbol.

Droopy—But Safe

The one thing you don't want in your Nomex clothing is starch — it makes it less flame resistant. But if it does get accidentally starched, don't sweat it. A good wash in soap and water — followed by a clean rinse — will put it back in top shape.

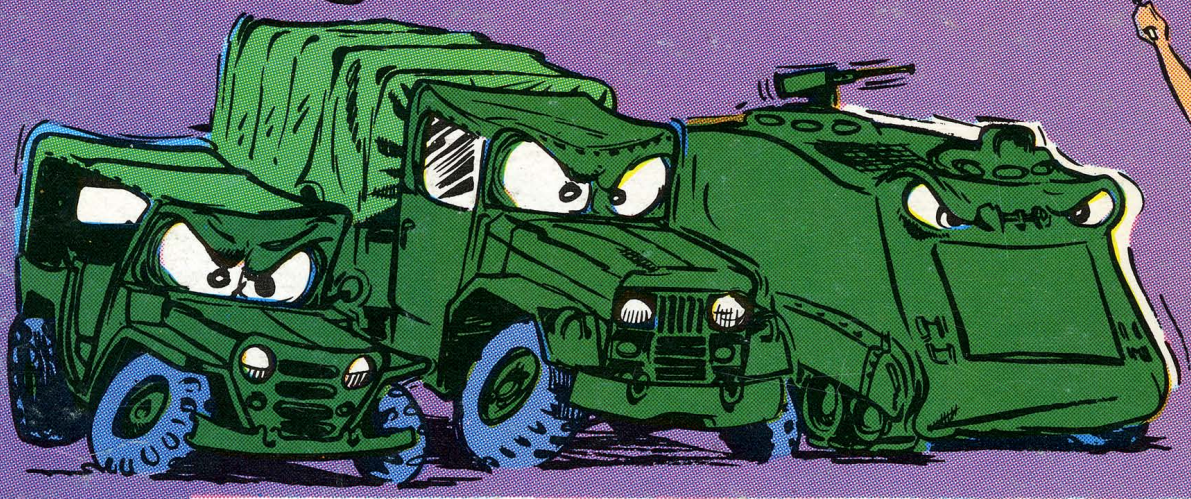
M151A1 U-Joint Kit

The wheel drive shaft U-joints on your M151A1 ¼-ton truck could be defective — so check. Vehicles serial-numbered 02B-00168 thru 02G-19968 got U-joints that don't quite cut the mustard and may need to be replaced earlier than usual.

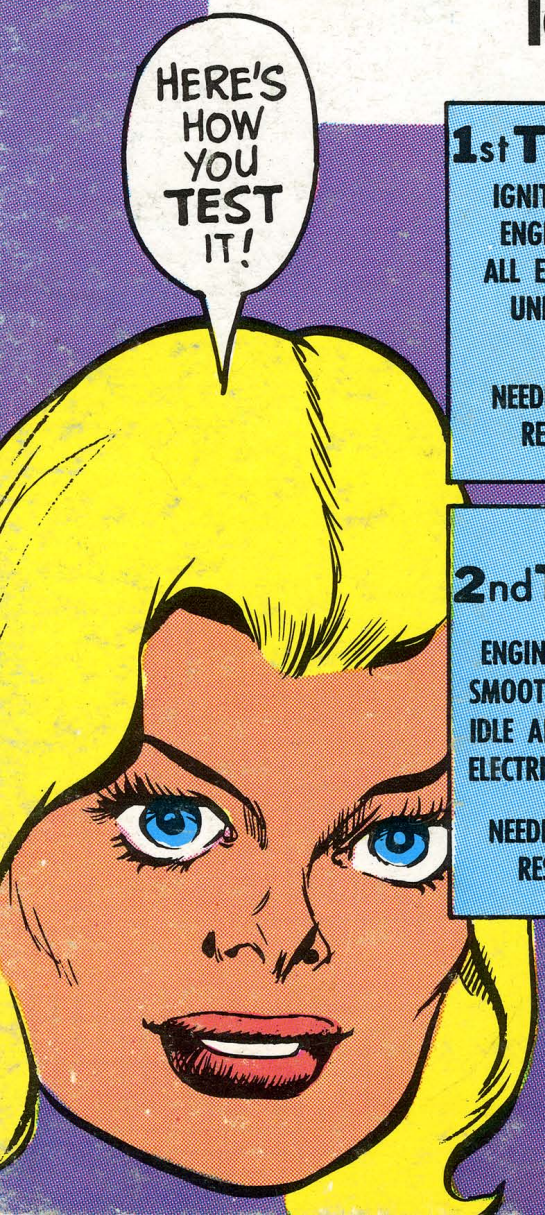
FSN 2520-176-8490 gets you a free replacement kit with 8 U-joint sets. The serial number of the vehicle must be included on the request, so ask your supply support to submit an exception-type-requisition.

Would You Stake Your Life right now on the Condition of Your Equipment?

GO!...OR NO-GO



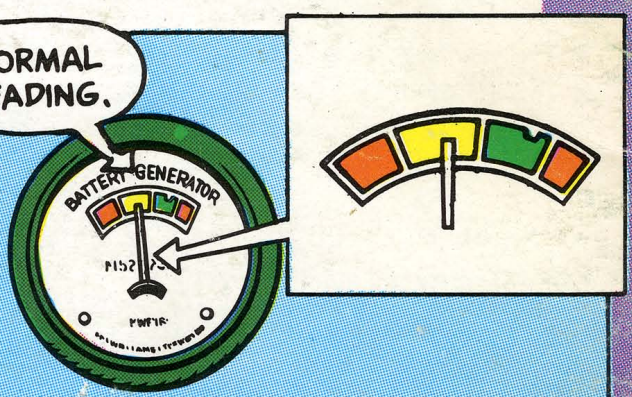
Your Battery-Generator Indicator lets you know!



1st TEST

IGNITION ON.
ENGINE OFF.
ALL ELECTRICAL UNITS OFF...

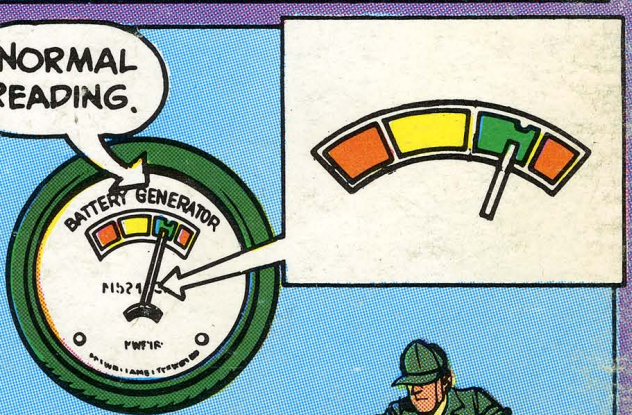
NEEDLE SHOULD REST HERE...



2nd TEST

ENGINE RUNNING SMOOTHLY AT HIGH IDLE AND WARM ALL ELECTRICAL UNITS ON.

NEEDLE SHOULD REST HERE...



NEEDLE IN ANY OTHER AREA MEANS NO-GO UNTIL A MECHANIC CHECKS OUT BATTERY AND CHARGING SYSTEM